



# REGIONAL PROSPERITY STRATEGY

## A 5-YEAR STRATEGIC PLAN FOR EAST CENTRAL MICHIGAN



DECEMBER 2014



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# EXECUTIVE SUMMARY

## INTRODUCTION

In 2012, Michigan's Governor created the Regional Prosperity Initiative (RPI) and established 10 Prosperity Regions covering the entire State. The 8-county East Central Michigan Prosperity Region (PR-5) includes the counties of: Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, and Saginaw. The PR-5 boundaries are based on the Region 5 Collaborative Development Council's boundaries that were established by the Michigan Economic Development Corporation (MEDC) in 2010. The 8-county region is also within the East Michigan Council of Governments' (EMCOG) 14-county Economic Development District, created in 1968 by the US Department of Commerce. The primary goal of the RPI is the development of a five-year Regional Prosperity Strategy that brings together the 8 counties around a shared vision to set the stage for sustained regional economic growth.

From June to December 2014, leaders from East Central Michigan worked in collaboration with TIP Strategies, an Austin-based economic development consulting firm, to create a Regional Prosperity Strategy designed to accelerate the region's economic success and maximize its potential. A cross-section of leaders (stakeholders representing economic development, workforce development, transportation, higher education, adult education, the private sector, and local governments) from each of the region's 8 counties was involved in the creation of this strategy. The resulting document includes the Regional Prosperity Strategy and goals, strategies, and specific actions to move the regional economy forward. The report also contains an Economic Assessment, SWOT Analysis, and a Target Industry Analysis.

## ASSETS & OPPORTUNITIES

The assets and opportunities in East Central Michigan far outweigh the challenges and risks. In many ways, the region has an "embarrassment of riches". Some of the region's strongest assets include:

- Higher education institutions
- Corporate and business leadership
- Major investments across the region
- Job growth in several key sectors
- Natural resources (water, recreation, agriculture)
- Affordability (land, labor, housing)
- Diversity across the 8 counties (urban, suburban, rural)
- Urban revitalization in the region's downtown districts (in large cities and small towns)
- Strong local organizations
- Huge potential for collaboration

## CHALLENGES & RISKS

Despite the region's many strengths, there are some significant challenges and risks that could impact the region's potential for economic development if left unaddressed. Some of the region's most pressing challenges include:

- Stagnant population growth
- State and regional economic downturn
- State and local tax/budgetary climate
- Access to capital for start-ups and expansions
- Infrastructure maintenance
- Negative perceptions (internal and external)
- Middle-skill workforce gaps
- Lack of a cohesive regional identity/brand

## THE RESPONSE

The strategic plan is centered on the most promising opportunities for economic prosperity in the 8-county East Central Michigan region. The summary to the right provides an overview of the strategic plan, including the vision and the major goals to support that vision. Within the plan, the strategies and actions to support each goal are explained in detail. This strategic plan will be successful if it helps East Central Michigan accomplish the following objectives:

- Increase the number and quality of jobs
- Raise per capita income levels
- Strengthen the tax base in the region's communities
- Grow the region's population and housing stock
- Expand the region's entertainment and recreation offerings
- Increase the amount of capital investment within the region
- Improve the region's perception statewide, nationally, internationally, and within the region

## STRATEGIC PLAN SUMMARY

### VISION:

The 8-county East Central Michigan region will become a leading destination in the state for new jobs, investment, and innovation by leveraging its corporate, academic, and community leaders to grow the regional economy and elevate the prosperity of the region's citizens.

### GOALS:

#### GOAL 1. ECONOMIC DEVELOPMENT & MARKETING.

Grow East Central Michigan's economy through economic development activities (business retention, expansion, and recruitment) and marketing efforts that enhance the region's image as a place to do business.

#### GOAL 2. ENTREPRENEURSHIP & INNOVATION.

Leverage East Central Michigan's higher education institutions, major corporations, medical complexes, and innovation assets to establish the region as a center for technology-based entrepreneurship and small business growth.

#### GOAL 3. TALENT & WORKFORCE DEVELOPMENT.

Build on the collaboration among East Central Michigan's higher education, adult education, secondary education (K-12), and workforce development organizations to create a strong pipeline of talent to support the region's current and future employers.

#### GOAL 4. TRANSPORTATION & INFRASTRUCTURE.

Capitalize on East Central Michigan's existing transportation assets (roads, rail, port facilities, airports) and make strategic investments in regional infrastructure (including broadband) that improve the region's economic competitiveness.

#### GOAL 5. PLACE-MAKING & TALENT ATTRACTION.

Embark on local and regional initiatives to strengthen the quality of place in each of East Central Michigan's urban and rural communities to create an attractive environment for existing and future residents.



## SWOT ANALYSIS

Beyond our general findings and observations, TIP conducted a more extensive analysis of East Central Michigan's Strengths, Weaknesses, Opportunities, and Threats, which relied heavily on qualitative input and quantitative data analysis.

The SWOT Analysis can be defined as follows:

- **STRENGTHS.** Advantages that can be built on to grow and strengthen the regional economy.
- **WEAKNESSES.** Liabilities and obstacles to economic development that could limit the region's growth potential.
- **OPPORTUNITIES.** Assets and positive trends that hold significant potential for increased regional prosperity and the attraction of new businesses, investments, and people.
- **THREATS.** Unfavorable external factors and trends that could negatively impact the regional economy.





The SWOT Analysis is organized around five major themes:

1. **ECONOMIC DEVELOPMENT & MARKETING.** This includes traditional economic development (business recruitment, expansion, and retention), regional planning & collaboration, and marketing & regional image.
2. **ENTREPRENEURSHIP & INNOVATION.** This includes entrepreneurship, innovation, academic research & development, technology-based start-ups, and small business development.
3. **TALENT & WORKFORCE DEVELOPMENT.** This includes workforce development, adult education, secondary education (K-12), and higher education.
4. **TRANSPORTATION & INFRASTRUCTURE.** This includes transportation infrastructure (roads/highways, rail, airports, water-based transport), utilities (electric, gas, water, broadband), and public transportation.
5. **PLACE-MAKING & TALENT ATTRACTION.** This includes downtown revitalization, urban vitality, and recreation/entertainment amenities.





## SWOT ANALYSIS: ECONOMIC DEVELOPMENT & MARKETING

STRENGTHS 	WEAKNESSES 
<ul style="list-style-type: none"> <li>Well-run EDCs that collaborate regularly and focus on business retention, expansion, and recruitment</li> <li>Strong business, planning, and promotion groups (chambers, downtown associations, EMCOG, visitors bureaus, GLBRA)</li> <li>Existing concentrations in automotive, agriculture, food processing, chemicals, materials, thermoforming, health care, tourism, higher education, construction, and energy</li> <li>Several large private employers (Dow Chemical, Dow Corning, Nexteer, Hemlock Semiconductor, Covenant)</li> <li>Major investments/expansions (Nexteer, Suniva, Northern Logistics, Fabiano Brothers, Dow Corning, Morley)</li> <li>Numerous business/industrial parks with available land</li> <li>Employer Resource Network (Nexteer, Morley, Covenant) addressing collective issues: daycare, transit, lending</li> <li>Lansing area Foreign Trade Zone includes Gratiot, Isabella, and Clare Counties</li> <li>Region has many selling points for business recruitment: manufacturing history, workforce strengths, Dow, natural resources, quality of life, low costs, great educational institutions, improving state tax climate, diversity, shovel-ready sites</li> </ul>	<ul style="list-style-type: none"> <li>Most of the region's economic development organizations are not well-funded</li> <li>Regional/state economy has struggled in last 20-30 years</li> <li>Limited awareness among the private sector of the Prosperity Region Initiative</li> <li>No regional marketing organization (an economic development organization or chamber of commerce) exists</li> <li>Although there is a Great Lakes Bay brand, there is no common vision tied to the regional brand</li> <li>Barriers cited by economic development prospects: workforce availability (esp. in rural areas), lack of incentives, urban blight, perception of heavy unionization, airport access, high energy costs, availability of quality buildings</li> </ul>
OPPORTUNITIES 	THREATS 
<ul style="list-style-type: none"> <li>State tax structure will likely become more competitive (eliminating personal property tax)</li> <li>Supplier opportunities associated with Dow, Nexteer, and other major private-sector companies in region</li> <li>The timing is right to do things differently and collaborate more regionally</li> <li>Saginaw County has a large (\$3 million+) revolving loan fund that can be used throughout the region for economic development</li> <li>Potential target industries include: health care, medical specialties, energy (biomass, solar, wind, battery storage, oil &amp; gas), manufacturing (chemicals, plastics, materials, automotive, semiconductors, medical devices), higher education, robotics, software &amp; app development, foodie businesses (local craft restaurants, breweries, wineries)</li> <li>International investors have made and are seeking opportunities for investment in the region</li> <li>Collaboration between Great Lakes Bay Manufacturers Assoc. and Central Michigan Manufacturers Assoc.</li> <li>Regional marketing by Great Lakes Bay Regional Alliance</li> <li>Consumers Energy is doing \$1 billion of in-state bid letting</li> </ul>	<ul style="list-style-type: none"> <li>Michigan has highest auto insurance rates in the US because of the unlimited cap on catastrophic coverage</li> <li>The sheer number of townships, municipalities, counties, transit agencies, and other governmental entities makes regional collaboration difficult</li> <li>Saginaw County (and City of Saginaw especially) is viewed in a negative light by many people in the region, despite having many of the region's most important cultural assets</li> <li>Potential for Regional Prosperity Strategy to be viewed as "forced collaboration"</li> <li>Reliance on a handful of large private-sector employers (Dow Chemical, Dow Corning, Nexteer)</li> </ul>





## SWOT ANALYSIS: ENTREPRENEURSHIP & INNOVATION

STRENGTHS 	WEAKNESSES 
<ul style="list-style-type: none"> <li>• Numerous spin-outs from Dow Chemical</li> <li>• CMU's entrepreneurship program is a major asset</li> <li>• CMU New Venture Competition supports entrepreneurship across the region</li> <li>• CMU Research Corp. and MidMichigan Innovation Center are nationally recognized resources for entrepreneurs</li> <li>• Blue Water Angels Network in Midland is responsible for 1/3 of the state's total angel investments</li> <li>• Numerous small business training assets (community colleges, SBDCs)</li> <li>• Sprout Lab Ag entrepreneurship partnership between EMCOG, Saginaw Valley State University, and Grand Valley State University</li> <li>• Northwood University International Auto Show</li> <li>• Some of the region's major employers (Dow Chemical, Dow Corning, Nexteer) have a strong focus on research, development, and innovation</li> <li>• High level of enthusiasm for entrepreneurial activities from community leaders</li> </ul>	<ul style="list-style-type: none"> <li>• Limited access to start-up capital</li> <li>• Lack of awareness of entrepreneurial resources and programs in region</li> <li>• Many entrepreneurs leave Michigan to take advantage of the entrepreneurial networks of other metropolitan regions (Chicago, West Coast, East Coast, Texas)</li> <li>• Overwhelming number of entrepreneurs and start-ups are focused on a single product, rather than disruptive technologies or systems design (software, biotech)</li> <li>• The region has the image and reputation as a corporate center rather than a location for start-ups</li> <li>• Entrepreneurship is not celebrated enough in the region's communities</li> </ul>
OPPORTUNITIES 	THREATS 
<ul style="list-style-type: none"> <li>• Potential for additional SBIR/STTR funding</li> <li>• Build on the software and information technology capabilities hidden in some of the region's large employers (Dow, Morley, Nexteer)</li> <li>• Leverage Michigan State University's new Midland Research Institute for Value Chain Creation</li> <li>• Attract programs and research to the region from other top schools (Michigan State University and University of Michigan in particular)</li> <li>• Potential for additional R&amp;D in the region: biotech, chemicals, electronics, advanced materials, plastics, automotive, battery technology, alternative energy</li> <li>• Expand on the tech transfer at CMU and SVSU</li> <li>• Potential linkages between chemical industry, precision manufacturing, plastics, and health care</li> <li>• Potential for additional incubators in the region</li> <li>• Place more emphasis on agriculture-related entrepreneurship opportunities through kitchen incubators, farmers markets, and other efforts</li> <li>• Expose more students to corporate R&amp;D</li> <li>• Leverage SVSU Independent Testing Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Continued loss of entrepreneurs to other areas</li> <li>• Limited access to capital could prevent growth of start-up companies or expansion of existing businesses</li> <li>• Some engineering functions in automotive sector may need to take place elsewhere to access the necessary talent (Silicon Valley, Chicago, Boston, Seattle, Austin, and other high-tech regions)</li> <li>• The MidMichigan Innovation Center relies heavily on funding from Dow Chemical</li> </ul>





## SWOT ANALYSIS: TALENT & WORKFORCE DEVELOPMENT

STRENGTHS 	WEAKNESSES 
<ul style="list-style-type: none"> <li>Outstanding higher education institutions in the region: CMU, SVSU, Alma College, Northwood University, Delta College, Mid Michigan Community College (MMCC), Davenport University</li> <li>Dow Foundation donation of \$5 million to SVSU, \$5 million to Alma College, and \$4 million to Delta College for STEM education</li> <li>Bay Area Chamber partnership with Bay-Arenac ISD for co-op and internship programs</li> <li>The region's workforce boards are employer-driven</li> <li>Increasing collaboration among region's workforce boards</li> <li>Adult education funding at state level allows for re-training</li> <li>Workforce strengths: skilled trades, manufacturing, health care, chemical industry (many PhD-level scientists), Midwest work ethic</li> <li>Strong partnerships between major employers and community colleges (Delta and MMCC)</li> <li>Merrill Institute offers a welding training program</li> <li>Fast-Start (Delta) and Rapid Response (MMCC) programs</li> <li>Bay-Arenac ISD Career Center and Saginaw Career Complex</li> <li>CTE millage in Gratiot-Isabella RESD</li> </ul>	<ul style="list-style-type: none"> <li>Many of the region's school districts struggle to sustain themselves</li> <li>Many segments of the workforce are lacking in soft skills, especially manufacturing and low-skill positions</li> <li>Specific workforce shortages in several occupational categories</li> <li>High percentage of adults without a high school diploma in some portions of the region</li> <li>Low K-12 math scores</li> <li>Large population of unserved adults in need of adult education</li> <li>Loose alumni ties at area universities (still function like a "commuter school" for alumni)</li> </ul>
OPPORTUNITIES 	THREATS 
<ul style="list-style-type: none"> <li>Community Ventures program</li> <li>Many jobs currently going unfilled</li> <li>High demand for STEM jobs (at Dow Chemical and Dow Corning especially)</li> <li>Potential for a career &amp; tech training center (K-12) that serves multiple counties</li> <li>Potential for much more collaboration among region's colleges and universities</li> <li>Region's rural counties could play a more active role in filling the workforce needs of Dow Chemical and other large employers</li> <li>Fast Start (Delta) and Rapid Response (MMCC) programs are replicable models that could apply to many industries</li> <li>Increase the amount of internships and work co-op programs throughout the region</li> <li>Tap into the region's seasoned workforce (age 50+), especially early retirees, for start-ups, retraining, and mentoring of younger workers and business owners</li> <li>Continue improving the region's educational attainment</li> </ul>	<ul style="list-style-type: none"> <li>Middle-skills workforce gaps, especially in skilled trades (electricians, journeymen, systems engineers, HVAC)</li> <li>Low levels of interest from younger generations in skilled trades and manufacturing</li> <li>Large group of Baby Boomers soon entering retirement age</li> <li>Continued loss of young adults, especially college graduates</li> </ul>

## SWOT ANALYSIS: TRANSPORTATION & INFRASTRUCTURE

STRENGTHS 	WEAKNESSES 
<ul style="list-style-type: none"> <li>• No traffic congestion issues</li> <li>• MBS airport (new terminal) is a major asset for the region</li> <li>• Numerous general aviation airports that are key assets for some companies</li> <li>• I-75 expansion/reconstruction</li> <li>• Region's strategic location offers easy access to Detroit metro area and northern Michigan</li> <li>• Major wind energy production in Gratiot County</li> <li>• Lake Huron, Saginaw Bay, and the Saginaw River are major assets</li> <li>• Port of Bay City is second largest port in Michigan by tonnage</li> <li>• Bay City is third largest municipal utility in Michigan</li> </ul>	<ul style="list-style-type: none"> <li>• No Class 1 railroads in region (nearest Class 1 railroads are to the south in Flint and Lansing)</li> <li>• Rails-to-trails program has reduced freight rail capacity</li> <li>• Highway 127 has a missing section of 4-lane freeway in Gratiot County</li> <li>• No expressways in Gladwin County</li> <li>• Prices are generally higher at MBS International Airport than in Flint (Bishop International Airport)</li> <li>• Bishop Airport has much more freight cargo than MBS</li> <li>• Roads leading to MBS are inadequate</li> <li>• Region's "peninsular" geography makes it less supportive of a major logistics &amp; distribution industry</li> <li>• Inadequate broadband infrastructure in some rural areas</li> <li>• Michigan's relatively high electric utility rates (compared to other Midwestern states)</li> </ul>
OPPORTUNITIES 	THREATS 
<ul style="list-style-type: none"> <li>• MBS has spare capacity</li> <li>• Significant unused capacity in region's ports</li> <li>• Better utilization of existing railroads</li> <li>• Potential for additional direct flights from MBS: Denver, Houston, New York, DC</li> <li>• Complete section of US Highway 127 north of Lansing, between St. Johns and Ithaca (northern Clinton County and southern Gratiot County)</li> <li>• Dow Chemical would like to use more rail to ship products/materials</li> <li>• Potential for an inter-modal (truck to rail) facility in region</li> <li>• Potential for additional freight rail in region</li> <li>• Expansion of region's freight rail infrastructure would spur additional growth in agriculture industry</li> <li>• RACER site in Buena Vista Township could be a place for an inter-modal facility</li> <li>• Expand public transportation hours to include evenings to support adult education</li> <li>• Combine individual transit agencies to pool resources and provide improved service</li> <li>• Increase collaboration among the private port operators in Saginaw Bay and Saginaw River</li> <li>• Standish grain elevator creates new transport options for agriculture industry</li> </ul>	<ul style="list-style-type: none"> <li>• State policy banning ballast from being dumped into the Great Lakes puts water-based transport at a disadvantage (compared to surrounding states)</li> <li>• Public transportation does not adequately serve the region's workforce and adult education needs</li> <li>• Transportation (to/from work &amp; school) is also a big challenge for high school students</li> <li>• Roads are generally in poor condition in the region (and in Michigan as a whole) and the current/expected funding for maintenance is far less than what is needed</li> </ul>

## SWOT ANALYSIS: PLACE-MAKING & TALENT ATTRACTION

STRENGTHS 	WEAKNESSES 
<ul style="list-style-type: none"> <li>• Low cost of living throughout region</li> <li>• Strong downtown districts throughout region</li> <li>• Urban revitalization yielding positive results across region</li> <li>• Good place to raise a family</li> <li>• Diversity of living options (urban, suburban, rural)</li> <li>• Wide range of options for outdoor recreation</li> <li>• Major companies support community development</li> <li>• Uptown Bay City is a major asset for downtown Bay City</li> <li>• Lots of second homes in northern tier of region (Clare, Gladwin, and Arenac counties)</li> <li>• Major companies (Dow Chemical, Nexteer) and chambers of commerce have young professionals groups</li> <li>• Hausbeck Pickle Company's employee home-ownership program</li> <li>• Alma College's involvement in downtown revitalization</li> <li>• Wide range of community events in cities and towns</li> <li>• Saginaw Chippewa Tribe Casinos in Arenac and Isabella Counties serve as amenities and resources for local governments</li> <li>• Relatively large population (570,000) in the region, despite not having a major metro area</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to recruit talent for professional jobs, especially from outside of the Midwest</li> <li>• The region does not have any major metro areas</li> <li>• Limited amount of jobs to attract/retain young adults from larger cities</li> <li>• Stagnant population growth or population decline in most of the region's counties</li> <li>• High levels of poverty in some of the region's urban areas and rural areas</li> <li>• Depressed home values and home sales in parts of region</li> </ul>
OPPORTUNITIES 	THREATS 
<ul style="list-style-type: none"> <li>• Positive momentum and major assets in Saginaw County: CMU College of Medicine, Delta College (new downtown campus), Dow Events Center, Children's Zoo, VA Hospital, new downtown housing, Frankenmuth tourism</li> <li>• Capitalize on the growing community of retirees and second home-owners in northern part of region (especially in Gladwin County)</li> <li>• Conduct a survey of the region's young adults to identify strengths and gaps in the region's quality-of-life amenities</li> <li>• Continue downtown revitalization across region</li> <li>• Downtown Saginaw opportunities: student housing to serve Delta College and CMU College of Medicine, new space for farmers market, water taxi connecting downtown and Old Town, market properties to investors</li> <li>• Expand young professionals groups into the rural portions of the region</li> <li>• Align arts/culture efforts with economic development</li> <li>• Creation of convention center space in region</li> </ul>	<ul style="list-style-type: none"> <li>• Limited amount of professional staff dedicated to urban planning, zoning, and community development throughout the region's local governments makes place-making more difficult</li> <li>• Perception/reality of high crime rates in Saginaw</li> <li>• Loss of young adults to larger metro areas (Chicago, Detroit, New York, others)</li> <li>• Depressed home values in parts of the region make home sales and residential mobility difficult</li> </ul>

## ABOUT THIS REPORT

This report contains the strategic plan, a target industry analysis, an economic assessment, an economic dashboard, and best practice examples. The strategic plan establishes a vision and goals for the 8-county East Central Michigan Prosperity Region's economic development program. It outlines strategies and specific actions for each goal. Within the strategic plan, there are several descriptions of projects and programs that could address a challenge or opportunity for East Central Michigan. These include examples from outside of the region, as well as local best practices that should be expanded and further supported. The target industry analysis provides detailed profiles on the target industry sectors and recommended niches. The economic assessment also presents key economic and workforce data for East Central Michigan, including a statistical comparison with other Midwest regions. The economic assessment includes an analysis of the region's strengths, weaknesses, opportunities, and threats.

This report contains the following sections:

- **STRATEGIC PLAN.** The strategic plan establishes a vision and goals for the 8-county East Central Michigan Prosperity Region's economic development program. It outlines strategies and specific actions for each goal. All of the strategies should be viewed and approached with an eye on leveraging and growing the industry clusters identified in Appendix A.
- **TARGET INDUSTRY ANALYSIS (APPENDIX A).** This section provides detailed profiles on the target industry sectors and recommended niches for East Central Michigan. The TIP team employed a three-pronged approach—quantitative, qualitative, and strategic—to identify the region's best prospects for economic growth through a focus on specific industries. This task matched local assets with national and international trends to identify the industries that represent the highest potential for relocation or expansion. Several potential target industries were presented to the Strategic Management Team. The following five industries were selected:
  - Higher Education & Research
  - Professional Services
  - Health Care
  - Advanced Manufacturing
  - Value-Added Agriculture & Food Processing
- **ECONOMIC ASSESSMENT (APPENDIX B).** The economic assessment presents key economic and workforce data for East Central Michigan, including statistical comparisons with other regions in the Midwestern US. The purpose is to understand the region's relative economic position and highlight its competitive advantages and disadvantages in the context of the larger economy.
- **ECONOMIC DASHBOARD (APPENDIX C).** The dashboard is a tool that provides an at-a-glance view of economic conditions in East Central Michigan. The dashboard will be available online and updated quarterly by EMCOG.

- **BEST PRACTICE EXAMPLES (APPENDIX D).** Through the stakeholder engagement process (roundtable discussions, workshops, and interviews) that involved nearly 300 individuals, it became apparent that the region has a poor self-image, despite the wide range of assets and positive attributes that exist in each corner of the 8-county region. This section exists to highlight and celebrate some of the programs and organizations within the region that are accomplishing great things. We have also highlighted a few successful programs from other parts of the US that can be used as models.



## STRATEGIC PLAN

This strategic plan will guide the economic development efforts for the 8-county East Central Michigan Prosperity Region over the next five years. This plan presents a shared regional vision, a set of goals, and specific strategies to accelerate the region's economic success. This document provides a roadmap for East Central Michigan's economic development program, but the ultimate success of the recommendations will depend on the level of commitment from the region's business and community leaders in executing the strategies laid out in this plan. The plan is structured around a single vision and five goals. This framework is presented below:

### VISION

*The 8-county East Central Michigan region will become a leading destination in the state for new jobs, investment, and innovation by leveraging its corporate, academic, and community leaders to grow the regional economy and elevate the prosperity of the region's citizens.*

### GOALS

The following five goals support the vision statement and form the framework for the strategic plan.

**GOAL 1. ECONOMIC DEVELOPMENT & MARKETING:** *Grow East Central Michigan's economy through economic development activities (business retention, expansion, and recruitment) and marketing efforts that enhance the region's image as a place to do business.*

**GOAL 2. ENTREPRENEURSHIP & INNOVATION:** *Leverage East Central Michigan's higher education institutions, major corporations, medical complexes, and innovation assets to establish the region as a center for technology-based entrepreneurship and small business growth.*

**GOAL 3. TALENT & WORKFORCE DEVELOPMENT:** *Build on the collaboration among East Central Michigan's higher education, adult education, secondary education (K-12), and workforce development organizations to create a strong pipeline of talent to support the region's current and future employers.*

**GOAL 4. TRANSPORTATION & INFRASTRUCTURE:** *Capitalize on East Central Michigan's existing transportation assets (roads, rail, port facilities, airports) and make strategic investments in regional infrastructure (including broadband) that improve the region's economic competitiveness.*

**GOAL 5. PLACE-MAKING & TALENT ATTRACTION:** *Embark on local and regional initiatives to strengthen the quality of place in each of East Central Michigan's urban and rural communities to create an attractive environment for existing and future residents.*

The goals, strategies, and actions in the section that follows are not listed in order of priority.

## GOAL 1. ECONOMIC DEVELOPMENT & MARKETING

*Grow East Central Michigan's economy through economic development activities (business retention, expansion, and recruitment) and marketing efforts that enhance the region's image as a place to do business.*

The region's economic development organizations, led by the MEDC (Michigan Economic Development Corporation) Collaborative Development Council, have done a good job of growing the East Central Michigan economy in recent years. After multiple decades of job losses in the region and in Michigan as a whole, largely driven by the decline in automotive manufacturing, the region and state have turned the corner since the end of the Great Recession. The region's economic development organizations have played an important role in facilitating the region's recent job growth through the core economic development activities of business retention, expansion, and recruitment. These activities must continue and accelerate over the next five years to build on recent successes and to continue the growth in jobs, wages, and capital investment in the regional economy.

New programs and efforts will also be needed to accelerate the region's economic success. Some of the biggest opportunities for economic development will come from both internal efforts (internal marketing efforts to promote collaboration within the region and the inclusion of more groups in economic development) and external efforts (marketing the 8-county region on the national stage and developing formal efforts to develop international business opportunities).

### STRATEGIES & ACTIONS

1. Expand international relationships & foreign investment in the 8-county region by establishing a formal effort to target and develop international business opportunities.
  - a. Bring an 8-county regional delegation (made up of public, private, educational, and civic leaders) to China to meet with the company that purchased Nexteer Automotive. While there, set up multiple meetings with business, educational, and political leaders to establish relationships and look for business development opportunities for the region.
  - b. Utilize the strength of the region's higher education institutions and workforce training efforts as a resource to build international relationships. Utilize and expand international programs and campuses that serve international students, like the Saginaw Valley State University sister school partnership with Ming Chuan University from Taiwan.
  - c. Leverage the existing concentration of international students at regional higher education institutions. Evaluate where students are coming from and establish a relationship with those regions. Build a database of international alumni and communicate with them regularly so they stay connected to the region after they return to their home country. Utilize international students as interns to assist in the development of these efforts.

- d. Market and promote the services of the region's workforce training expertise in specific industry clusters to educational institutions in other countries.
  - e. Assist large corporations in the region with the creation of a welcome program for international employees. This program could include: receptions and networking opportunities for international employees, community information and marketing material in foreign languages, and other transitional resources and support.
  - f. Build on the region's relationships with businesses in Canada that might have an interest in expanding into Michigan. Also, continue to look for ways that companies in the region can develop focused marketing efforts to promote their products/services to Canadian customers.
2. Provide for greater efficiencies and collaboration in economic development efforts across the region by establishing a regional research and data resource for economic development organizations, workforce development groups, and local governments.
  - a. Have EMCOG serve as a research resource for the 8-county region's economic development efforts [cities and economic development organizations (EDOs)]. The council can prepare regularly updated economic and demographic data sets for economic development efforts across the region thereby freeing up resources of each EDO/city so they can focus more on executing on business recruitment and retention/expansion activities. (See a description of EMCOG's regional collaboration efforts on page 109.)
  - b. EMCOG should provide a questionnaire concerning the type of research utilized by EDOs and cities to identify common areas where it could provide support with a dedicated research analyst and online resources.
3. Initiate a major regional internal marketing campaign promoting East Central Michigan as a unified region.
  - a. Promote shared threads among the region's 8 counties, highlighting data that demonstrate their connectedness (e.g., commuting patterns, retail spending, higher education facilities, and entertainment and recreation).
  - b. Encourage community leaders to talk about the region as a whole. Consider using public service announcements to highlight regional activities and information.
  - c. Communicate the economic development goals of the 8-county region and encourage every citizen to participate and support growing the local economy.
  - d. As part of internal marketing efforts, engage the region's service industry—especially restaurant and hotel staff—and partner with the region's chambers of commerce to develop training sessions for service industry workers so that they can become better salespeople for East Central Michigan, projecting a positive image of the region to residents and visitors alike.
4. Market and promote the 8-county region as a great place to do business on the national stage.
  - a. Expand existing marketing and business promotion efforts taking place in individual counties within the region to include references of the 8-county region as a whole.

- b.** Identify and develop relationships with key decision makers (business executives, site consultants, and commercial real estate brokers) to promote the region as a place for business recruitment/expansion.
  - c.** Market to the identified industry cluster audiences by utilizing specific media channels that serve those industries at national and international conferences and by directly contacting decision makers and thought leaders in those industries.
  - d.** The East Central Michigan Prosperity Region should continue working closely with the MEDC Collaborative and state-level economic development officials to pursue new economic development opportunities for the region.
- 5.** Engage a broad cross-section of organizations in the region's economic development & marketing efforts. Every organization in the region, whether non-profit, public, or private, should be aware of the overall economic development goals in the region and consider how they might contribute to their community's economic success.
  - a.** The Prosperity Region 5 Collaborative for the 8-county region could lead this effort.
  - b.** Set up regular meetings between the region's economic development organizations and other groups to enhance shared awareness of economic development activities and to get on the same page with regional marketing efforts. In addition to the region's economic development organizations, other groups that should be engaged include: utility providers, railroad companies, community foundations, chambers of commerce, and convention & visitors bureaus.
  - c.** Encourage as much collaboration across the region as possible between organizations that have similar missions, including mergers or joint meetings, if appropriate. For example, consider building a stronger alliance between the Great Lakes Bay Manufacturers Association and the Central Michigan Manufacturers Association.
- 6.** Increase the level of funding for economic development activities across the 8-county region.
  - a.** Explore ways to establish a pool of grant funds that economic development organizations within the region could apply for to advance economic development initiatives. This would not be a redistribution of existing funding for economic development organizations and programs in the region; instead, it would be aimed at increasing the overall resources for economic development initiatives in the 8-county region.
  - b.** Catalog existing efforts that are not adequately funded, as well as new initiatives that should be funded.
  - c.** Launch a formal fundraising campaign to build this pool of resources from the public sector, private sector, and foundations. Consider hiring a fundraising consultant to execute the campaign.

## GOAL 2. ENTREPRENEURSHIP & INNOVATION

*Leverage East Central Michigan's higher education institutions, major corporations, medical complexes, and innovation assets to establish the region as a center for technology-based entrepreneurship and small business growth.*

The development of a strong entrepreneurial environment is critical for the long-term success of East Central Michigan's economy. Although not well known nationally or even locally, many of the assets needed to create a robust culture of entrepreneurship are already in place: a network of top-notch higher education institutions, several major corporations that conduct in-house R&D, and several unique entrepreneurship and small business support assets (CMU Research Corporation, the MidMichigan Innovation Center, the region's SBDCs, and the Blue Water Angels).

Michigan also has two global research universities (Michigan State University and the University of Michigan) with high levels of R&D investment. In fact, the University of Michigan ranked second in the US with more than \$1.3 billion in academic R&D expenditures in 2012. There is an opportunity to connect the research and innovation taking place in these two institutions with R&D activities being pursued by companies in East Central Michigan.

### STRATEGIES & ACTIONS

1. Create a regional entrepreneurship and start-up eco-system map indicating the various programs, initiatives, and assets that are in place to drive forward new business activity.
  - a. Create an online map to help the entrepreneurs, start-ups, and investors to navigate the region's existing entrepreneurship and innovation resources and network. (See the Startup Seattle example on page 111.)
  - b. The eco-system map can serve as a tool to improve awareness of the region to outsiders sending the message that East Central Michigan is a great place to launch a new enterprise or invest in a new venture.
  - c. The map can also be used to educate the local community about the spirit of entrepreneurship that exists and the start-up activity that is taking place. Because so many people within the region are unaware of existing entrepreneurship and innovation assets, the map can serve as a promotion piece to get the community thinking of itself as a hotbed for entrepreneurs.
2. Improve access to start-up capital for local entrepreneurs by fully utilizing existing investment sources within the region and developing stronger ties to angel and venture capital investors outside of the region.
  - a. Bring in venture capital and angel investors from major markets along the East Coast (Boston, New York, DC) and the Midwest (Chicago, Detroit, Minneapolis) to showcase the region's potential as a hub for start-ups and entrepreneurs. Partner with local businesses (law firms, accounting firms, and other professional services businesses) to sponsor and fund this effort. (See the Venture Investment & Partnering [VIP] Forum example from the Washington Biotechnology & Biomedical Association on page 111.)

- b.** Work with the region's SBDCs (Small Business Development Centers) housed at Delta College and Mid Michigan Community College to assist local entrepreneurs with tapping into federal funding sources by applying for Small Business Innovation Research (SBIR) grants, the Small Business Technology Transfer program (STTR), and other programs available to entrepreneurs.
  - c.** Leverage the alumni networks at CMU, SVSU, Alma College, Northwood University, and Davenport University to communicate with successful alumni who are entrepreneurs, looking to invest in or return to the region.
- 3.** Work with CMU and SVSU to support more R&D at each institution, especially research that benefits or leverages the region's existing companies (Dow Chemical and others).
  - a.** Leverage CMU's Institute for Great Lakes Research to attract additional R&D into the region associated with wetlands, fisheries, water ecology, GIS (Geographic Information Systems), and related fields. Explore the potential to collaborate with the private sector to fund this type of research.
  - b.** Support CMU's plans to grow the university's R&D budget from \$11 million in 2012 to \$25 million by 2018.
  - c.** Consider establishing shared space for additional 3-D printers and other physical and chemical testing equipment within SVSU's Center for Business and Economic Development. This could be a regional asset that supports the R&D and prototyping needs of local companies in the 8-county region. (See a description of SVSU's Center for Business and Economic Development on page 109.)
- 4.** Work with the region's major employers and medical complexes to attract R&D spending from other Michigan universities.
  - a.** Build on the relationships between major corporations in East Central Michigan (Dow Chemical, Dow Corning, Nexteer, and others) and Michigan's two major research institutions (Michigan State University and the University of Michigan) to attract additional R&D investments into the region.
  - b.** Leverage the new Midland Research Institute for Value Chain Creation to expand the amount of R&D taking place in Midland and the surrounding area. Support the ongoing development of closer ties between MSU and Dow Chemical and Dow Corning.
  - c.** Host key researchers and leadership from the University of Michigan to showcase some of the potential collaborative research opportunities with the region's major corporations. Use regional businesses to sponsor/fund this event.
  - d.** Leverage the new CMU School of Medicine to expand opportunities for life sciences R&D associated with the region's large medical complexes.
- 5.** Build on the region's entrepreneurship & innovation assets to support business growth across the region.

- a. Market and promote CMU's New Venture Competition, which is a major asset for the region and the state of Michigan as a whole. Utilize the competition's success to elevate the region's image as a great place for start-ups and entrepreneurs. (See a description of CMU's New Venture Competition on page 112.)
- b. The CMU Research Corporation's crowdsourcing funding model is a great way to support early-stage companies and could be replicated in other programs across the region.
- c. Building on CMU's success, encourage all of the region's higher education institutions to expand their focus on entrepreneurship as a way to retain graduates in the region.
- d. Work with the MidMichigan Innovation Center to explore the potential for spin-off companies and technologies from Dow Chemical and other major corporations in the region. (See a description of the MidMichigan Innovation Center on page 111.)
- e. Work with the region's chambers of commerce and business associations to enhance networking opportunities available for entrepreneurs, investors, and small business owners.

## GOAL 3. TALENT & WORKFORCE DEVELOPMENT

*Build on the collaboration among East Central Michigan's higher education, adult education, secondary education (K-12), and workforce development organizations to create a strong pipeline of talent to support the region's current and future employers.*

Access to a skilled workforce is the most important factor affecting the success of businesses in today's economy. Demographic trends at the national level will lead to a shrinking in the working-age population over the next couple decades. If economic and job growth continue, even at a minimal rate, employers will continue to have difficulties in finding skilled workers. Thus, one of the most urgent priorities for communities is to develop a pipeline of talent to support the growth of existing and future employers. Communities with an educated and skilled population have a big advantage in the competitive landscape of economic development, because employers are increasingly drawn to metro areas with concentrations of skilled workers.

East Central Michigan's workforce has a mixture of strengths (a concentration of workers in manufacturing and health care and a major presence of scientists and engineers thanks to Dow Chemical and Dow Corning) and weaknesses (fewer college graduates than the national average and a low presence of professional services workers). However, the region has a major competitive advantage due to the numerous top-notch colleges and universities that, altogether, contain about 60,000 students. One of the most important outcomes of this strategic plan will be a greater emphasis on leveraging the region's higher education institutions for economic development.

### STRATEGIES & ACTIONS

1. Build on the success of Delta College's Fast Start program and Mid Michigan Community College's Rapid Response and Plastics Technology programs to support "just in time" workforce training for the region's employers. (See a description of the Fast Start program on page 114 and the Plastics Technology program on page 116.)
  - a. Promote and market these workforce training programs as models of effective workforce training, to both employers and students.
  - b. Work with the region's employers, economic development organizations, chambers of commerce, and industry associations to identify other industries that could be served by this program.
  - c. As a secondary priority, consider expanding workforce training services to companies outside of the region. This would help create a pipeline of talent to feed into the 8-county region's higher education institutions and would also help support programs within the region's colleges and universities through larger class sizes.
2. Support the STEM-focused initiatives led by the Great Lakes Bay Regional Alliance. (See a description of this initiative on page 114.)





- 7.** Conduct a feasibility study to explore the potential for a center of excellence that leverages the unique capabilities of higher education institutions and major corporations in the region to pursue new initiatives that do not currently exist in Michigan and have the potential to transform the region's economy over the long-term. EMCOG will convene and lead a coalition of partners to conduct a feasibility analysis and evaluation of the planning requirements for a potential Center of Excellence including:
  - a.** Identify key stakeholders and regional organizations that should be involved in this effort. These organizations should include, but may not be limited to, area colleges and universities, community and technical colleges, workforce development organizations, corporate research and development programs, as well as organizations and initiatives focused on transportation and economic development.
  - b.** Potential areas of collaboration including R&D, academic training, workforce training, events, etc.
- 8.** Establish an EMCOG-led education committee made up of council members and representatives from higher education institutions to discuss potential areas of collaboration among the region's colleges and universities. (See an example of a similar committee from the Toledo Metropolitan Area Council of Governments on page 115.)
  - a.** Set up regular meetings that bring together this committee with major employers to connect the region's workforce training to the marketplace.
  - b.** Convene a higher education summit to discuss potential opportunities for collaboration including:
    - i.** Developing a healthcare pool for employees across institutions to save on insurance costs.
    - ii.** Advocating for dedicated state funding for training in the region's target industries and/or an increase in the share of the University of Michigan system's R&D spending.
    - iii.** Creating a combined alumni outreach and education program between the higher educational institutions as a tool to market the region and entice alumni to consider coming back to the region to live and work. Establish a regional jobs board for these alumni and local employers.
    - iv.** Encourage the region's higher education institutions to provide financial incentives for students that graduate on time. (See the Grand Valley State University on-time graduation incentive program on page 114.)

## GOAL 4. TRANSPORTATION & INFRASTRUCTURE

*Capitalize on East Central Michigan's existing transportation assets (roads, rail, port facilities, airports) and make strategic investments in regional infrastructure (including broadband) that improve the region's economic competitiveness.*

Well-functioning transportation networks and other key infrastructure components (like utilities and broadband) are essential for the long-term success of regional economies. East Central Michigan is fortunate to have a robust transportation network of highways, rail, water-based transport, and airports. It will be important to maintain and fully capitalize on the region's existing infrastructure, but there are also opportunities to make strategic investments in transportation and broadband infrastructure that will enhance the region's economic potential.

One of the region's biggest advantages is the significant amount of underutilized capacity across all modes (roads, rail, water, air). MBS International Airport, in particular, is a major asset for the entire 8-county region (and beyond) that can be leveraged for economic development. The region's rail network and the water-based transport facilities along the Saginaw River and Saginaw Bay can also be further capitalized on to support the growth of freight-intensive industries like agriculture, construction, and manufacturing. Many of the region's major manufacturing and agriculture companies, Dow Chemical in particular, have expressed a desire to increase their use of rail and water-based transport.

### STRATEGIES & ACTIONS

1. Convene a freight mobility roundtable that meets quarterly to share information on regional transportation issues.
  - a. EMCOG can serve as the convening body for this group.
  - b. The roundtable can serve as a regular forum to bring together public and private sector leaders involved in transportation and freight mobility to discuss transportation issues affecting the region, hear presentations from local/state/federal transportation planners, and learn about major transportation policy or funding efforts.
2. Fill key gaps in the regional highway system to support the growth of existing businesses and the attraction of new companies.
  - a. Study the Highway 127 gap in Gratiot County (the section of highway that is not a limited-access roadway, and has lower speed limits) to estimate its impact on existing businesses and on the recruitment of economic development prospects. Site consultants and corporations sometimes rule out locations in Gratiot, Isabella, and Clare Counties for business relocations/expansions because of the lack of highway access connecting the region to the south. Additional transportation costs for existing businesses also result from this gap. The MDOT Economic Development Fund could be a funding source to address this problem.

- b.** Prioritize improvements to the roadways leading to/from MBS International Airport; the existing routes are essentially rural roads. Expanding and improving some of the main roadways that connect to MBS (Garfield Road, Freeland Road, and other roadways) is one way to improve the competitiveness of the airport in the struggle to attract passengers that might otherwise fly out of Bishop International Airport in Flint. Identification of these improvements should be a collaborative process involving MBS, MDOT, MPOs (metropolitan planning organizations), local road commissions, and other key stakeholders.
- 3.** Leverage and make strategic investments in the region's existing rail infrastructure to support the growth of key industries, particularly the agriculture sector.
  - a.** Prioritize rail-related investments based on the recommendations from MDOT's recent report titled "The role of rail infrastructure in the economic development of Michigan's Northern Lower Peninsula".
  - b.** Explore the potential to enhance rail infrastructure connecting the region to Canada through Port Huron.
  - c.** Build on the existing Great Lakes Central Rail/Northern Dry Bulk transload terminal in Clare, which is the premier transload facility in the northern half of Michigan's Lower Peninsula region.
  - d.** Consider investing in re-configurations and/or expansions of the rail yards in Saginaw and Bay City to make rail transport more efficient for the region's rail-dependent businesses.
  - e.** Build on the success of the Standish Grain Elevator by exploring opportunities to develop additional connections, capacity, and rail-related infrastructure (inter-modal facilities, trans-load facilities, grain elevators, etc.) to support existing companies and make the region more competitive in attracting new businesses.
- 4.** Explore ways to make better use of water-based transport for goods movement, especially for the agriculture, construction, and utilities sectors.
  - a.** Support and leverage the US Army Corps of Engineers' study to widen and deepen the Saginaw River shipping channel as a way to encourage the continued and expanded use of the river for goods movement.
  - b.** Conduct an economic impact analysis of the water-based transport facilities in the Saginaw River and Saginaw Bay to demonstrate the number of jobs and amount of tax revenue that these transportation facilities provide to the region and the state, along with historical fluctuations of this impact.
  - c.** Explore the possibility of expanding water-based transport to Canada.
  - d.** Support greater collaboration among the region's private port operators and industries that depend on water-based transport (agriculture and construction, in particular).
- 5.** Leverage and support MBS International Airport to more fully capitalize on its potential for economic development.

- a. Work with MBS and major employers (Dow Chemical, Dow Corning, and Nexteer) and other large institutions (Central Michigan University and Saginaw Valley State University) to identify and aggressively pursue additional direct flights to major airports.
  - b. Potential destinations for new direct flights from MBS include: Atlanta (expand from once/week to daily), Houston, Denver, New York, and DC.
  - c. Explore the potential to increase the amount of air cargo to/from MBS.
  - d. Work with MBS, local economic development corporations, and the region's real estate community to identify opportunities to capitalize on the large amount of land and under-utilized buildings on the airport property, particularly the old airport terminal facilities.
- 6. Support efforts to maintain and improve the region's highways and local roadways.
  - a. Continue working with EMCOG, the Michigan Transportation Asset Management Council, and regional civil engineers to re-evaluate current road maintenance standards to make the most efficient use of financial resources devoted to the repair and maintenance of local roadways.
  - b. Support the efforts led by EMCOG and the region's MPOs, local governments, and transportation planners to prioritize road improvements where they are needed most to improve the safety and connectivity of the region's roadway infrastructure.
- 7. Continue to expand and improve broadband internet access throughout the region, especially in rural areas.
  - a. Focus on expanding broadband service in areas where it is not currently available (mostly in the region's rural areas).
  - b. Support Gladwin County's efforts to survey residents about the demand for broadband service. Utilize the results of this survey to market the county to internet providers. If successful, consider using a similar approach to increase broadband access in other parts of the region.
- 8. Provide more comprehensive and more efficient transit service to support the region's workforce, employers, and educational providers.
  - a. Work with MDOT and EMCOG to support and leverage the Governor's Regional Transit Mobility Study as a way to document the region's public transportation needs, with the goal of improving transit access for the region's workforce and employers.
  - b. Encourage the region's public transportation agencies to meet regularly and work together to serve the region more efficiently through inter-agency agreements or other cooperative efforts.

- c. Work with the region's higher education institutions, adult education providers, major employers, and other key constituents to identify ways to expand transit options to better serve the region's workforce. This may include extending public transportation into the evening hours in some cases.
- d. Ensure that key regional destinations (MBS International Airport, colleges and universities, and major employers) are served by public transportation.
- e. Over the long-term, consider combining some or all of the region's separate public transportation agencies to into a single, region-wide transit agency.

## GOAL 5. PLACE-MAKING & TALENT ATTRACTION

*Embark on local and regional initiatives to strengthen the quality of place in each of East Central Michigan's urban and rural communities to create an attractive environment for existing and future residents.*

Today's generation of young adults, much more than previous generations, favors urban living and everything that comes with it (riding transit, walking, biking, patronizing locally owned shops and restaurants instead of national chains, etc.). Providing an attractive environment which appeals to young professionals is critical for economic development because the number one issue for companies (and by extension, for communities) is access to qualified workers. And this is not limited to large cities. A growing amount of small cities and towns offer walkable neighborhoods and downtown districts that attract young people. Ultimately, the communities that can attract and retain skilled workers (whether they are large cities or small towns) have a major competitive advantage in today's economy.

East Central Michigan has struggled to retain and attract talented workers, especially young professionals, in recent decades. This struggle is not unique to the region—in fact, it's a national issue. However, the problem is often more challenging in small and mid-size metro areas that have fewer amenities than large metro areas. Nonetheless, East Central Michigan is well positioned to emerge as a leading destination for talent. The region has a variety of attractive downtown districts in some of the region's smallest communities and largest cities, many of which are experiencing an uptick in investment and development from both public and private sectors. And the region has many companies (large and small) that are committed to enhancing their communities as a way to retain and attract skilled workers.

### STRATEGIES & ACTIONS

1. Tell the stories of successful downtown revitalization efforts across region.
  - a. Begin by highlighting the massive transformation of downtown Bay City from an area filled with boarded-up, vacant buildings in the 1980s to a vibrant mixed-use district today. Use Bay City as the regional model for downtown revitalization. (See a description of Bay City's successful downtown revitalization efforts on page 117.)
  - b. Also, highlight the progress being made toward increased urban vitality in Saginaw, Midland, Mount Pleasant, and many of the region's smaller downtowns (Alma, Ithaca, Clare, Harrison, and Frankenmuth, among others).
2. Package the region's downtowns as investment opportunities.
  - a. Conduct an inventory of available properties in each downtown.

- b. Highlight unique assets in each area and use targeted marketing to pitch the downtown as an investment opportunity to investors that are interested in urban revitalization, focusing on people with some ties to East Central Michigan.
  - c. Consider establishing a fund to stimulate redevelopment in the region's downtowns. Explore options to utilize the region's land banks as a vehicle to fund this initiative.
3. Support the City of Saginaw in its development of catalyst projects to revitalize its downtown district.
  - a. Leverage the CMU College of Medicine and upcoming downtown Saginaw Delta College campus as catalysts to spur additional revitalization in downtown Saginaw.
  - b. Identify ways to capitalize on the existing entertainment venues (Dow Event Center, Temple Theater) and major events (music festivals, 4<sup>th</sup> of July celebration, etc.) to further stimulate interest and investment in downtown Saginaw.
  - c. Launch a marketing initiative to educate people within the region about the improved level of safety in Saginaw. Include updates on recent successes, citing the major decline in the city's rate of violent crime.
4. Establish place-making and good urban planning as a regional priority.
  - a. Engage the Urban Land Institute (ULI) to conduct a regional downtown revitalization study. This study could focus on a single downtown or the multiple downtowns serving the region and culminate in a ULI conference to attract real estate development leaders from across the country.
  - b. Consider establishing a community and regional planning organization for the 8-county region that assists local governments with land use planning. EMCOG could potentially fill this role by serving as a resource to local governments that cannot afford to maintain a full-time staff of professional urban planners, zoning administrators, and downtown development specialists.
  - c. Hold a regional place-making summit that brings together government entities, the real estate community, and major employers from across the region to share best practices and discuss the challenges/opportunities associated with improving the quality of place in each community in East Central Michigan.
5. Create a regional approach to develop and promote local farmers markets.
  - a. Work with the region's agricultural sector and existing farmers markets to establish a collaborative effort to promote the ongoing success and growth of locally grown agriculture products.
  - b. Identify gaps in the region's farmers markets that can be filled by the establishment of new, larger, or more permanent farmers markets. Consider using public-private partnerships for this purpose.
  - c. Utilize farmers markets as tools to promote place-making and downtown revitalization to retain people in and attract people to the region.



6. Model the success of the Hausbeck Pickle Company's employee home purchase program in Saginaw to include other major employers and other communities in the region. (See a description of the program on page 118.)
  - a. Work with major employers across the region to link them more directly with the revitalization of communities and urban neighborhoods, beyond simply providing a job and an income for their employees.
  - b. Identify neighborhoods in need of revitalization and encourage collaboration between the public sector and major employers (large corporations, hospitals, educational institutions, etc.) to implement employee home purchase programs that target these neighborhoods.
7. Expand and promote the region's recreation and entertainment opportunities as a way to retain and attract talent within the region.
  - a. Explore ways to expand the region's recreational infrastructure (hike & bike trails, boat access, parks, ball fields, beach and shoreline improvements, etc.). Identify potential funding sources for this. (See a description of a successful funding model from the Allegheny Regional Asset District on page 117.)
  - b. Launch a regional entertainment promotion effort in partnership with the Great Lakes Bay Convention & Visitors Bureau, the Great Lakes Bay Arts & Entertainment Council, and other local organizations to support the growth of existing festivals/events and to pursue additional events to attract visitors into the region.
  - c. Bring civic leadership development groups together to create a promotional strategy to attract young people to, and retain them in, the 8-county region. Find messages and connection points (including social media) to engage the 60,000 students living in the region. This effort could be led by Alma College's Responsible Leadership Institute.
8. Create an 8-county talent attraction package that highlights the region's many quality of life assets to assist employers with the recruitment and retention of new hires.
  - a. Work with the region's economic development corporations, chambers of commerce, major employers, and other local organizations to put together a set of marketing materials that highlights the region's key quality of life assets (schools, arts and culture amenities, outdoor recreation, downtown districts, etc.). This talent attraction package would be utilized by the region's major employers as a key component of their hiring process, particularly when recruiting for highly skilled professionals (e.g., physicians, engineers, IT professionals, etc.) from outside of the region.
  - b. Ensure that the talent attraction package showcases key assets located in the 8-county region's urban and rural communities.

## IMPLEMENTATION

A strong implementation strategy can be the key to bringing a plan to fruition. Identifying opportunities and the steps needed to make them reality is not enough. Setting priorities is perhaps the most important role that a solid implementation strategy should fulfill. Having clearly established priorities is essential for effective use of public resources.

A sample of the implementation matrix is provided below. A complete implementation matrix that combines all the strategies and actions is provided as an editable Excel document separate from this report. The implementation matrix provides a graphic representation of when the actions should realistically be implemented and the most appropriate organizations to carry them out.

### SAMPLE IMPLEMENTATION MATRIX

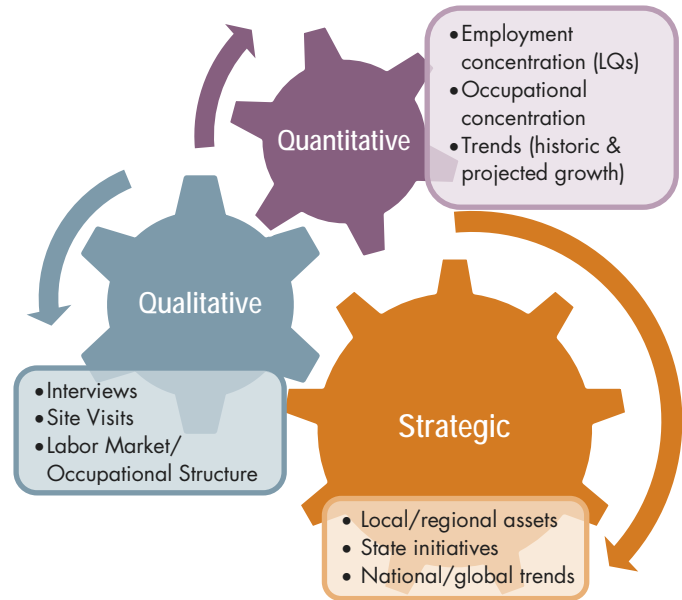
NO.	ACTION	POTENTIAL PARTNERS	TIMEFRAME			
			0-6 Mo.	6-12 Mo.	1-2 Years	3-5 Years
GOAL 1. ECONOMIC DEVELOPMENT & MARKETING						
Strategy 1. Expand international relationships & foreign investment in the eight-county region by establishing a formal effort to target and develop international business opportunities.						
1.a.	Bring an eight-county regional delegation (made up of public, private, educational, and civic leaders) to China to meet with the company that purchased Nexteer Automotive. While there, set up multiple meetings with business, educational, and political leaders to establish relationships and look for business development opportunities for the region.	EMCOG, Regional EDOs, Nexteer, SVSU, Delta College, local elected officials, other regional automotive companies		■		
1.b.	Utilize the strength of the region's higher education institutions and workforce training efforts as a resource to build international relationships. Utilize and expand international programs and campuses that serve international students, like the Saginaw Valley State University sister school partnership with Ming Chuan University from Taiwan.	Regional higher education institutions, workforce development organizations, regional EDOs		■	■	■
1.c.	Leverage the existing concentration of international students at regional higher education institutions. Evaluate where students are coming from and establish a relationship with those regions. Build a database of international alumni and communicate with them regularly so they stay connected to the region after they return to their home country. Utilize international students as interns to assist in the development of these efforts.	Regional higher education institutions		■	■	■
1.d.	Market and promote the services of the region's workforce training expertise in specific industry clusters to educational institutions in other countries.	Regional higher education institutions, workforce development organizations, regional EDOs	■	■	■	■
1.e.	Assist large corporations in the region with the creation of a welcome program for international employees. This program could include: receptions and networking	Regional companies, regional chambers of commerce				

## APPENDIX A: TARGET INDUSTRY ANALYSIS

### INTRODUCTION

The selection of target industries is traditionally based on a limited set of quantitative factors such as workforce access, available industrial sites, and incentives. Our target industry recommendations for East Central Michigan are not based solely on these factors, but also take into account qualitative factors (such as conversations with local/regional business leaders and consulting experience gained from prior work) and strategic issues (including state and national economic trends and planned infrastructure investments).

A quantitative analysis was conducted to help identify potential target industries. This analysis included the following:



- [Labor shed/commute shed analysis:](#) We mapped East Central Michigan's labor shed (where the region's workers live) and commute shed (where the region's employed residents work) using data from the US Census Bureau's LEHD (Longitudinal Employer Household Dynamics) database.
- [Economic trends analysis:](#) We analyzed the trends affecting economic development in East Central Michigan and the state as a whole to provide a foundational understanding of the issues and opportunities facing business recruitment and retention/expansion in the region.
- [Location quotients:](#) A location quotient (LQ) is calculated as a local industry's share of total local employment divided by the same industry's share of employment at the national level. LQs were used to identify the industries in which the area's employment is most concentrated relative to the national average, which suggests a competitive advantage. Also, industries with low LQs can sometimes represent untapped opportunities for growth by filling an existing gap in the local marketplace.

We also conducted a qualitative analysis that included roundtable discussions and one-on-one interviews with major employers to document the region's strengths and barriers from the perspective of local businesses. This helped us better understand the opportunities for retention/expansion of existing companies and for attraction of new businesses. Using a strategic lens, we compiled a list of potential target sectors that take into account East Central Michigan's economic trends and also capitalize on the region's unique strengths and assets.

## TARGET INDUSTRY RECOMMENDATIONS

TIP recommends that East Central Michigan focus its economic development efforts on five target industries:

- 1. HIGHER EDUCATION & RESEARCH** includes colleges, universities, and private sector research and development activities.
- 2. PROFESSIONAL SERVICES** includes information technology, finance & insurance, real estate, legal services, accounting, architecture & engineering, advertising, and other business services.
- 3. HEALTH CARE** includes ambulatory health care services (offices of physicians and other health practitioners, outpatient care centers, medical and diagnostic laboratories, and other health services), public and private hospitals, and nursing and residential care facilities.
- 4. ADVANCED MANUFACTURING** includes automotive manufacturing, advanced materials, chemicals, plastics, machinery, and other advanced manufacturing sectors.
- 5. VALUE-ADDED AGRICULTURE & FOOD PROCESSING** includes crop production, animal production, food manufacturing, breweries, wineries, distilleries, farmers markets, and related wholesalers and distributors.

These five target industries are a diverse set of sectors, by design. Some of the industries (like Higher Education & Research and Professional Services) have high education and training requirements, and pay high wages. Other sectors (like Advanced Manufacturing and Value-Added Agriculture & Food Processing) have lower education requirements and lower wages. The target industries recommended in this report build on some of East Central Michigan's strongest assets:

- Several top-notch colleges and universities
- Corporate headquarters of Dow Chemical and Dow Corning
- Major health care organizations that serve a large geographic area in East Central Michigan and beyond
- Natural resources, including abundant water and highly productive agricultural lands
- Under-utilized transportation infrastructure (roads, rail, water, airports)

In the following section, each target industry is profiled and specific niches are noted in the list of representative NAICS codes provided in each profile. These industries and niches offer East Central Michigan the greatest potential for economic growth.

## HIGHER EDUCATION & RESEARCH

### INDUSTRY OVERVIEW

The higher education & research industry includes colleges, universities, and private sector research and development activities. The industry, as defined, employs roughly 9,300 workers at 42 establishments in the 8-county region. Regional employment in higher education & research is on par with national levels, while the Michigan's employment in this sector is relatively higher, with an LQ of 1.13.

### WHY EAST CENTRAL MICHIGAN?

The region's two strongest assets for economic development are its higher education institutions and its major private sector employers. There are numerous top-notch colleges and universities in the region, each with its own unique specialties and focus areas, with a combined student enrollment of about 60,000 annually. The region is home to major corporate headquarters (Dow Chemical, Dow Corning, and Nexteer) which employ a wide range of engineers and research scientists. In recent years, these institutions have forged new partnerships with the region's major employers. Yet, there is much greater potential for collaboration among the region's colleges and universities themselves. East Central Michigan also has some unique innovation assets including the MidMichigan Innovation Center, the BlueWater Angels network, the CMU Research Corporation, and CMU's New Venture Competition within the Department of Entrepreneurship. Lastly, there is a largely untapped opportunity to better connect East Central Michigan's companies and higher education institutions to Michigan's global research universities (Michigan State University and the University of Michigan).

### TARGET NICHES

- Entrepreneurship
- Academic R&D
- Corporate R&D

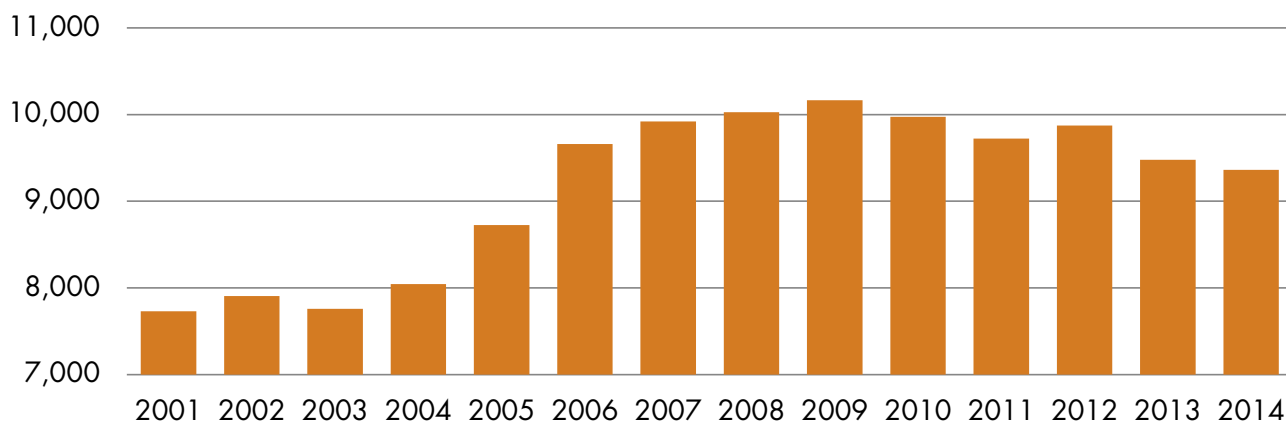
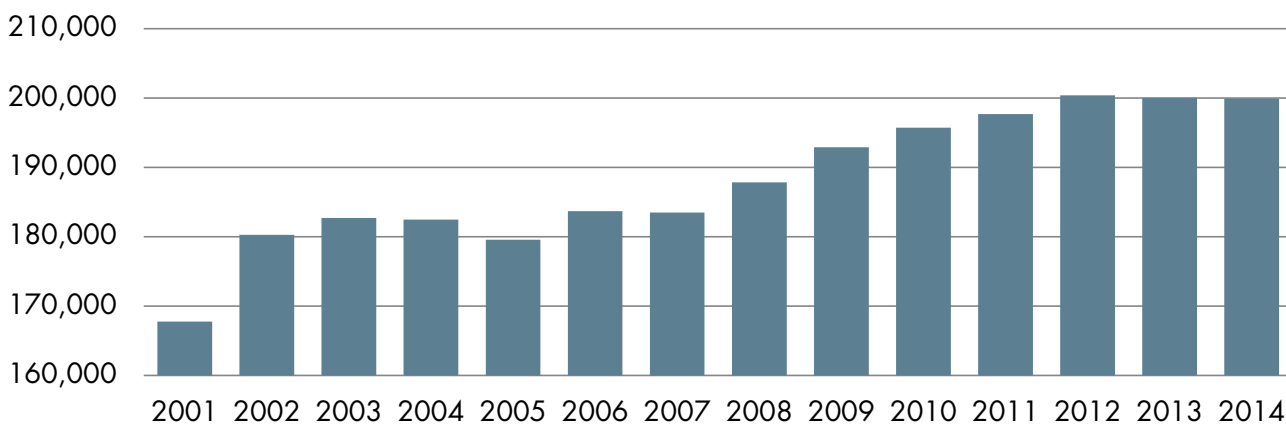
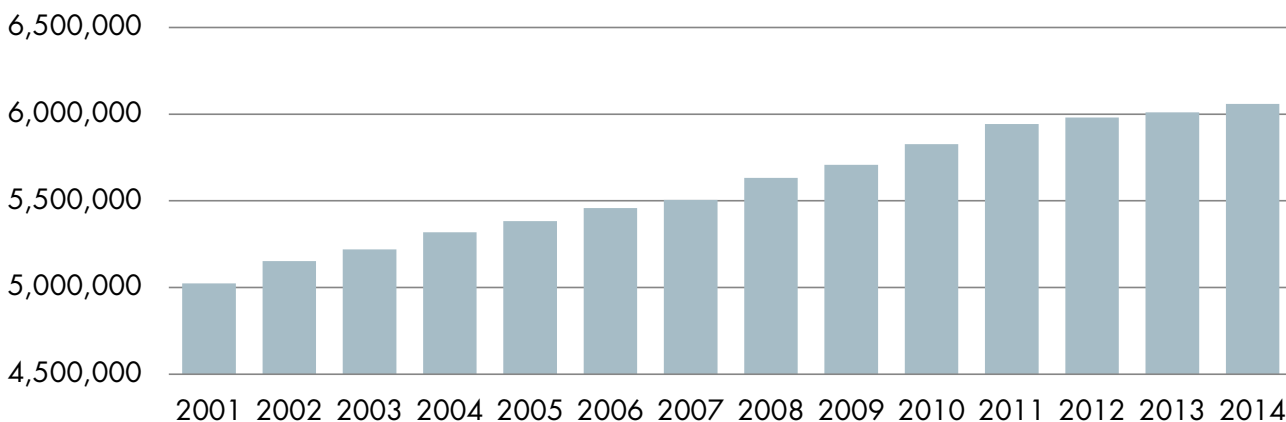
### SECTOR COMPONENTS

NAICS CODE	DESCRIPTION
5417	Scientific Research and Development Services
6112	Junior Colleges (Private)
6113	Colleges, Universities, and Professional Schools (Private)
6114	Business Schools and Computer and Management Training (Private)
6115	Technical and Trade Schools
902612	Colleges, Universities, and Professional Schools (State Government)
903619	Colleges, Universities, and Professional Schools (Local Government)

### SECTOR SNAPSHOT (2014)

US	
Total Employment:	6,059,268
Total Establishments:	61,002
Michigan	
Total Employment:	199,898
LQ:	1.13
Total Establishments:	1,383
East Central Michigan (PR-5)	
Total Employment:	9,362
LQ:	1.01
Total Establishments:	42

Source: EMSI Complete Employment 2014.3

**HIGHER EDUCATION & RESEARCH EMPLOYMENT TRENDS****East Central Michigan Employment****Michigan Employment****U.S. Employment**

Source (all figures): EMSI Complete Employment 2014.3. Vertical axes adjusted to show trend detail.

## SECTOR COMPONENT EMPLOYMENT TRENDS

State colleges and universities (NAICS 902612) comprise the largest share of employment in the higher education & research sector in East Central Michigan, accounting for more than 6,200 jobs. The region also has an above-average concentration of employment in NAICS 902612, with an LQ of 1.62. However, employment at state-operated schools in the region has dropped since 2010. This is in contrast with the industry's performance at the state and national level during the same period.

A look at key occupations (next page) points to a handful of clerical and support positions with median wage rates well below the US. While this can be an advantage in attracting business investment to the region, it can represent a challenge to the attraction of talent. This is particularly true of occupations requiring some level of postsecondary training for entry. A look at estimated annual openings—demand due to projected new growth and anticipated replacement needs of current employers—suggests relatively modest demand for these same occupations. By contrast, strong demand is anticipated for office clerks and janitorial staff, with each projected to have more than 150 opening in the region annually. This may be one factor causing wage rates to more closely align with national averages.

<i>Ranked by East Central Michigan employment in 2014</i>		US		Michigan			East Central Michigan		
NAICS	Sector	Jobs (2014)	% Chg. (2010-2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)
902612	Colleges, Universities, and Professional Schools (State Govt.)	2,515,131	4.0%	114,057	6.0%	1.56	6,218	-1.0%	<b>1.62</b>
6113	Colleges, Universities, and Professional Schools	1,881,521	7.0%	32,223	-8.7%	0.59	1,376	-17.8%	0.48
903612	Colleges, Universities, and Professional Schools (Local Govt.)	730,235	2.3%	21,691	-13.0%	1.02	1,352	-11.1%	1.21
5417	Scientific Research and Development Services	657,338	2.5%	23,895	21.7%	1.25	183	27.8%	0.18
6112	Junior Colleges (private)	80,445	-7.9%	2,349	9.3%	1.00	158	18.6%	<b>1.29</b>
6115	Technical and Trade Schools (private)	125,010	-1.4%	3,574	-11.7%	0.98	76	-22.9%	0.40
6114	Business Schools and Computer and Mgmt. Training (private)	69,588	-14.3%	2,108	3.5%	1.04	<10	—	—

Source: EMSI Complete Employment 2014.3 Location Quotients (LQs) are calculated by comparing a sector's share of total local employment to the sector's national share. An LQ of 1.00 indicates that the sector commands an average (expected) share of the local economy. LQs above 1.25 indicate a strong local sector, while those less than 0.75 indicate a weak local sector.

## LEADING OCCUPATIONS OVERVIEW

## TOP 20 OCCUPATIONS IN HIGHER EDUCATION &amp; RESEARCH, EAST CENTRAL MICHIGAN (2014)

Based on share of total employment in the target

SOC CODE	DESCRIPTION	OCCUPATION'S SHARE OF TOTAL EMPLOYMENT IN TARGET	REGIONAL EMPLOYMENT		MEDIAN HOURLY WAGE		TYPICAL ENTRY-LEVEL EDUCATION
			2014	Est. Annual Openings	East Central MI	Relative to US (US=1.00)	
43-9061	Office Clerks, General	12.5%	6,685	151	\$12.44	0.92	HS diploma/GED
25-1099	Postsecondary Teachers	11.0%	1,067	33	\$28.95	0.92	Doctoral/prof. degree
43-6014	Secretaries/ Admin. Asst., Except Legal, Medical, and Executive	7.1%	3,445	72	\$14.79	0.94	HS diploma/GED
37-2011	Janitors and Cleaners, Except Maids and Housekeepers	6.2%	5,175	186	\$11.09	1.02	Less than high school
25-9041	Teacher Assistants	5.7%	2,450	71	\$12.52	1.08	Some college/no degree
11-9033	Education Admin., Postsecondary	3.0%	281	11	\$44.62	1.07	Master's degree
43-9199	Office and Administrative Support Workers, All Other	2.2%	371	13	\$11.07	0.71 ●	HS diploma/GED
21-1012	Educational, Guidance, School, and Vocational Counselors	1.9%	331	9	\$20.20	0.78 ●	Master's degree
49-9071	Maintenance and Repair, General	2.0%	2,132	57	\$14.95	0.87	HS diploma/GED
27-2022	Coaches and Scouts	1.7%	482	21	\$12.39	0.88	Bachelor's degree
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1.7%	2,629	42	\$15.62	0.91	HS diploma/GED
15-1151	Computer User Support Specialists	1.5%	656	18	\$19.60	0.88	Some college/no degree
13-1199	Business Operations Specialists, All Other	1.3%	1,181	22	\$24.52	0.77 ●	HS diploma/GED
37-3011	Landscaping/Groundskeeping	1.1%	2,170	106	\$9.88	0.89	Less than high school
43-4121	Library Assistants, Clerical	1.1%	434	26	\$9.48	0.83	HS diploma/GED
33-9032	Security Guards	1.1%	980	26	\$11.68	1.00	HS diploma/GED
25-4031	Library Technicians	0.9%	252	16	\$11.72	0.78 ●	Non-degree award
19-4099	Life, Physical, and Social Science Technicians, All Other	0.9%	140	7	\$18.20	0.85	Associate's degree
43-6011	Executive Secretaries/Executive Administrative Assistants	0.9%	689	10	\$21.52	0.91	HS diploma/GED
43-4171	Receptionists and Info. Clerks	0.9%	1,775	54	\$12.23	0.96	HS diploma/GED

Source: EMSI Complete Employment 2014.3. ●/● Indicates regional wage rates less than 80% / greater than 110% of US median. Estimated annual openings represent projected new demand and anticipated replacement needed yearly through 2019.



## PROFESSIONAL SERVICES

### INDUSTRY OVERVIEW

The professional services industry includes information technology, finance & insurance, real estate, legal services, accounting, architecture & engineering, advertising, and other business services. The industry as defined employs slightly less than 20,000 workers at roughly 17,000 establishments in the region. Professional services employment is much less concentrated in East Central Michigan than the US, as evidenced by its 0.67 LQ.

### WHY EAST CENTRAL MICHIGAN?

East Central Michigan's strongest asset for growing the professional services sector is the existing base of major companies that employ a wide range of professional employees (Dow Chemical, Dow Corning, Nexteer, and Frankenmuth Insurance). The existence and success of these firms demonstrates that the region can support large companies that employ highly skilled professionals. The region's proximity to the Detroit metro area is another asset that can be leveraged to attract growth in this area. In fact, the region's commuting patterns provide evidence of the potential to foster growth in this industry. The most recent data shows a net out-commuting of more than 1,000 professional services workers each day. Thus, East Central Michigan currently has more professionals than its existing companies can employ. The region is exporting a large chunk of its professional talent. And because professional services jobs pay much higher wages than jobs in most other sectors, it will be critical to grow this industry to retain workers in and attract talent to East Central Michigan.

### TARGET NICHES

- Software & Information Technology
- Finance & Insurance
- Architecture & Engineering

### SECTOR COMPONENTS

NAICS CODE	DESCRIPTION
52	Finance and Insurance
531	Real Estate
5411	Legal Services
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services
5413	Architectural, Engineering, and Related Services
5414	Specialized Design Services
5415	Computer Systems Design and Related Services
5416	Management, Scientific, and Technical Consulting Services
5418	Advertising, Public Relations, and Related Services
5419	Other Prof., Scientific, and Technical Services
55	Management of Companies and Enterprises

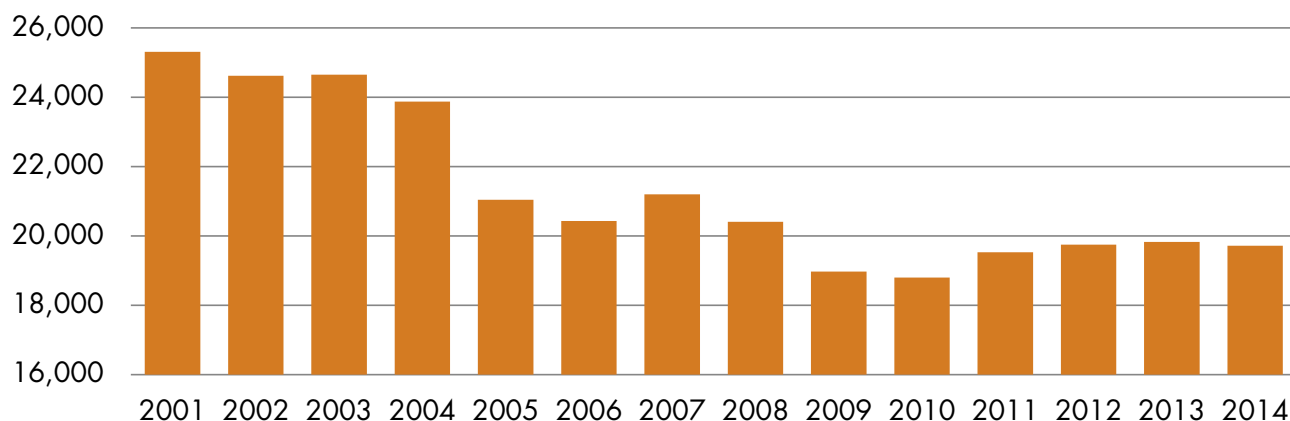
### SECTOR SNAPSHOT (2014)

US	
Total Employment:	19,183,757
Total Establishments:	1,884,576
Michigan	
Total Employment:	536,793
LQ:	0.96
Total Establishments:	44,073
East Central Michigan (PR-5)	
Total Employment:	19,717
LQ:	0.67
Total Establishments:	1,699

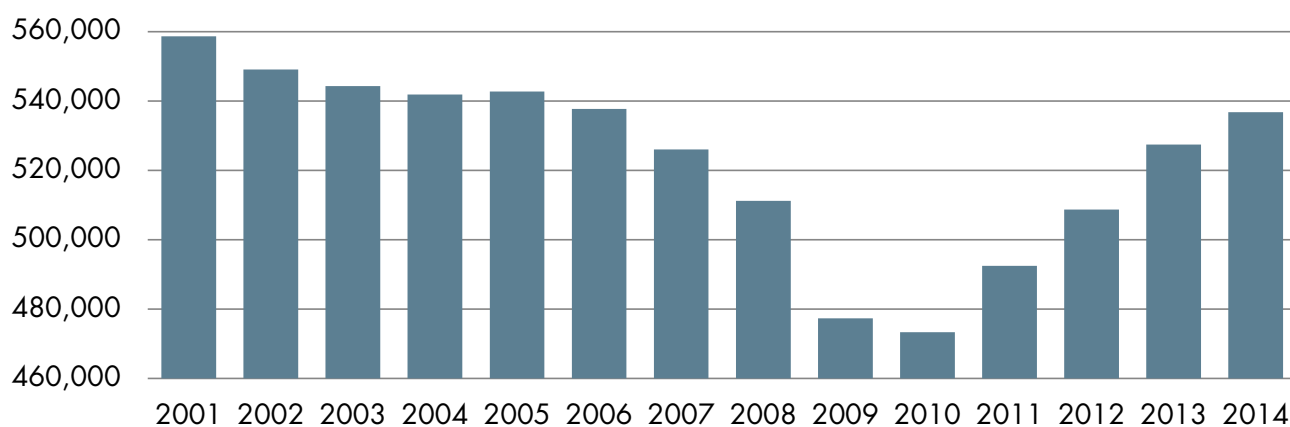
Source: EMSI Complete Employment 2014.3

## PROFESSIONAL SERVICES EMPLOYMENT TRENDS

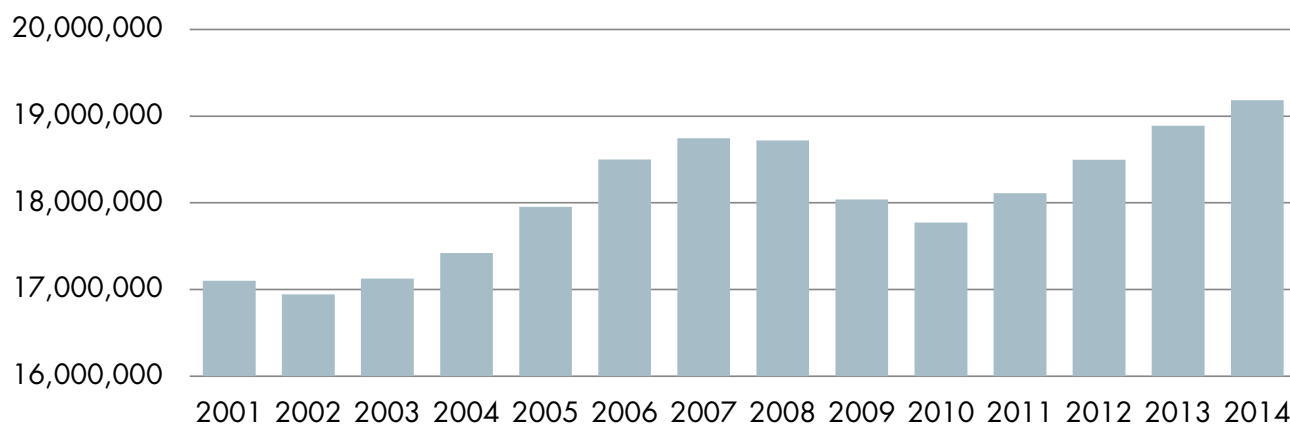
East Central Michigan Employment



Michigan Employment



U.S. Employment



Source (all figures): EMSI Complete Employment 2014.3. Vertical axes adjusted to show trend detail.

## SECTOR COMPONENT EMPLOYMENT TRENDS

Employment in management of companies and enterprises (NAICS 55) has led the sector in terms of employment growth in the region, adding nearly 1,000 jobs since 2010 (an increase of more than 30 percent). With an LQ of 1.27 in 2014, employment in this industry sector (which includes corporate headquarters, regional offices, and holding companies), is also more concentrated in East Central Michigan than would be expected based on national patterns. By contrast, the region's share of employment in NAICS 5414 (which encompasses a range of services, including interior design, graphic design, and industrial design) falls well short of expected norms, with an LQ of just 0.50. The industry has also shed nearly one-third (30 percent) of its employment since 2010.

Wage rates for many of the occupations that support the professional services sector fall below US averages (next page). Customer service representatives are the largest occupation in the sector in terms of their share of total employment. Wage rates for this occupation are generally in line with national averages, suggesting an advantage in the attraction of firms that rely on these skills. However, customer service representatives are among the highest in terms of projected annual demand (openings), suggesting that additional growth could be a challenge.

*Ranked by East Central Michigan employment in 2014*

NAICS	Sector	US		Michigan			East Central Michigan		
		Jobs (2014)	% Chg. (2010-2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)
52	Finance and Insurance	6,163,241	3.4%	150,614	5.3%	0.84	6,313	-1.7%	0.67
55	Management of Companies and Enterprises	2,131,687	14.9%	59,206	16.9%	0.95	4,128	31.5%	<b>1.27</b>
5415	Computer Systems Design and Related Services	1,915,645	20.2%	49,525	19.3%	0.89	1,883	12.4%	0.64
531	Real Estate	1,952,690	3.2%	48,081	0.5%	0.85	1,807	-16.5%	0.61
5412	Accounting, Tax Preparation, Bookkeeping, & Payroll Services	1,114,373	6.4%	33,799	10.8%	1.04	1,706	7.7%	1.00
5411	Legal Services	1,360,498	1.3%	32,183	-0.8%	0.81	956	-7.7%	0.46
5413	Architectural, Engineering, and Related Services	1,487,864	7.7%	79,114	32.6%	1.83	892	5.3%	0.39
5419	Other Professional, Scientific, and Technical Services	759,006	10.5%	23,792	25.6%	1.08	852	14.6%	0.74
5416	Management, Scientific, and Technical Consulting Services	1,512,539	18.2%	34,781	29.8%	0.79	835	11.3%	0.36
5414	Specialized Design Services	256,378	5.8%	9,295	27.7%	1.25	194	-29.5%	0.50
5418	Advertising, Public Relations, and Related Services	529,836	8.6%	16,403	11.8%	1.06	151	-6.1%	0.19

Source: EMSI Complete Employment 2014.3 Location Quotients (LQs) are calculated by comparing a sector's share of total local employment to the sector's national share. An LQ of 1.00 indicates that the sector commands an average (expected) share of the local economy. LQs above 1.25 indicate a strong local sector, while those less than 0.75 indicate a weak local sector.

## LEADING OCCUPATIONS OVERVIEW

## TOP 20 OCCUPATIONS IN PROFESSIONAL SERVICES, EAST CENTRAL MICHIGAN (2014)

Based on share of total employment in the target

SOC CODE	DESCRIPTION	OCCUPATION'S SHARE OF TOTAL EMPLOYMENT IN TARGET	REGIONAL EMPLOYMENT		MEDIAN HOURLY WAGE		TYPICAL ENTRY-LEVEL EDUCATION
			2014	Est. Annual Openings	East Central MI	Relative to US (US=1.00)	
43-4051	Customer Service Representatives	5.3% ■■■□□	3,536	114	\$13.51	0.91	HS diploma/GED
43-3071	Tellers	4.8% ■■□□□	960	48	\$11.51	0.94	HS diploma/GED
41-3021	Insurance Sales Agents	5.0% ■■□□□	986	34	\$19.43	0.85	HS diploma/GED
43-9061	Office Clerks, General	4.7% ■■□□□	6,685	151	\$12.44	0.92	HS diploma/GED
13-2011	Accountants and Auditors	3.5% ■■□□□	1,242	58	\$28.19	0.91	Bachelor's degree
43-3031	Bookkeeping, Accounting, and Auditing Clerks	3.5% ■■□□□	2,629	42	\$15.62	0.91	HS diploma/GED
43-6014	Secretaries/Admin. Asst., Except Legal, Medical, and Executive	2.9% ■■□□□	3,445	72	\$14.79	0.94	HS diploma/GED
43-1011	First-Line Supervisors of Office and Administrative Support Workers	2.5% ■■□□□	1,716	53	\$21.78	0.90	HS diploma/GED
11-1021	General and Operations Managers	2.5% ■■□□□	2,666	69	\$37.59	0.81	Bachelor's degree
23-1011	Lawyers	2.2% ■■□□□	644	13	\$37.38	0.73 ●	Doctoral/prof. degree
41-9022	Real Estate Sales Agents	2.0% ■■□□□	420	7	\$13.13	0.78 ●	HS diploma/GED
13-2072	Loan Officers	1.8% ■■□□□	386	9	\$23.33	0.79 ●	Bachelor's degree
11-3031	Financial Managers	1.7% ■■□□□	633	15	\$41.95	0.78 ●	Bachelor's degree
13-1199	Business Operations Specialists, All Other	1.6% ■■□□□	1,181	22	\$24.52	0.77 ●	HS diploma/GED
49-9071	Maintenance and Repair Workers, General	1.5% ■■□□□	2,132	57	\$14.95	0.87	HS diploma/GED
13-1111	Management Analysts	1.5% ■□□□□	494	13	\$30.95	0.85	Bachelor's degree
43-4171	Receptionists and Info. Clerks	1.4% ■□□□□	1,775	54	\$12.23	0.96	HS diploma/GED
41-3031	Securities, Commodities, and Financial Services Sales Agents	1.3% ■□□□□	255	7	\$23.12	0.67 ●	Bachelor's degree
13-2082	Tax Preparers	1.3% ■□□□□	254	10	\$17.66	0.98	HS diploma/GED
11-9199	Managers, All Other	1.2% ■□□□□	877	22	\$29.16	0.83	HS diploma/GED

Source: EMSI Complete Employment 2014.3. ●/● Indicates regional wage rates less than 80% / greater than 110% of US median. Estimated annual openings represent projected new demand and anticipated replacement needed yearly through 2019.

## HEALTH CARE

### INDUSTRY OVERVIEW

The health care industry includes ambulatory health care services (offices of physicians and other health practitioners, outpatient care centers, medical and diagnostic laboratories, and other health services), public and private hospitals, and nursing and residential care facilities. The industry as defined employs more than 32,600 workers at approximately 1,130 establishments in the 8-county region. LQs for both East Central Michigan and the state as a whole suggest an above-average concentration of health care employment relative to the US.

### WHY EAST CENTRAL MICHIGAN?

The health care sector is one of the most important segments of the East Central Michigan economy. The region is fortunate to have several major health care organizations (Covenant, McLaren, St. Mary's, and MidMichigan Health) each of which has its own set of specialties and strengths. And the region's health care industry serves a market area that extends far beyond the 8-county region, including counties in the Thumb area and several counties north of the region. The new CMU College of Medicine is a unique asset that will drive growth and new opportunities for economic development in the region's health care sector for years to come.

### TARGET NICHES

- Medical Specialties
- Health & Wellness
- Life Sciences R&D

### SECTOR COMPONENTS

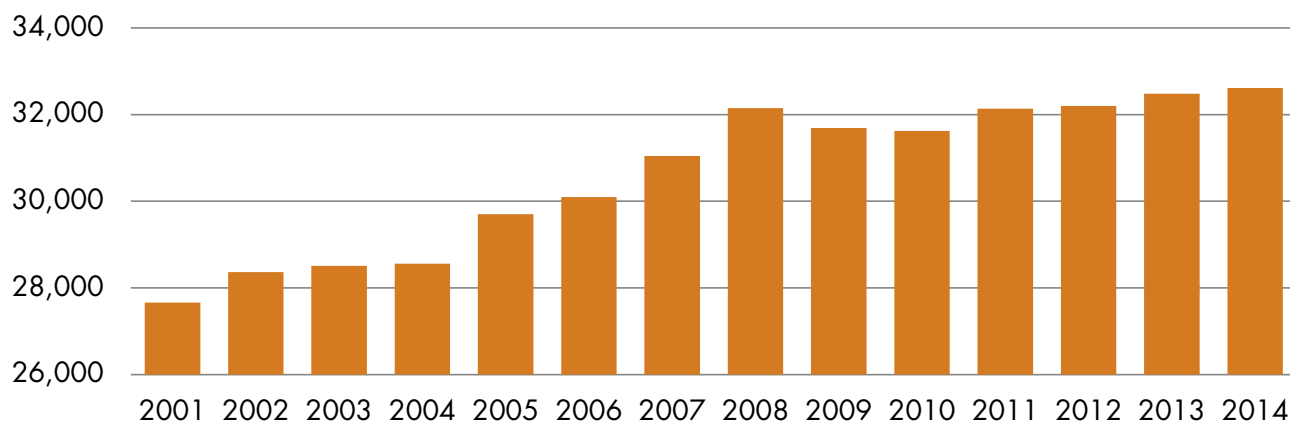
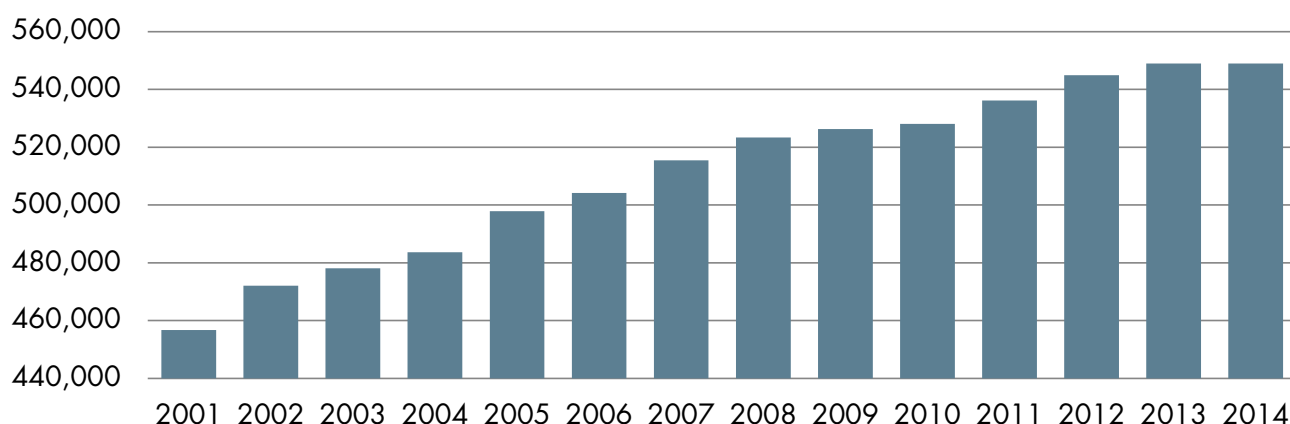
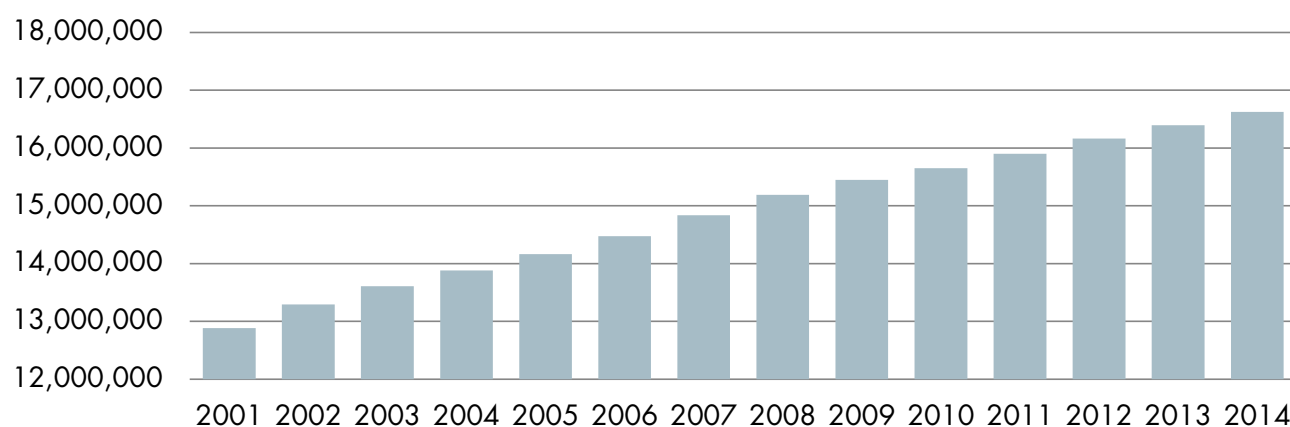
NAICS CODE	DESCRIPTION
621	Ambulatory Health Services
622	Hospitals (Private)
623	Nursing and Residential Care Facilities
71394	Fitness and Recreational Sports Centers
90262	Hospitals (State Government)
90362	Hospitals (Local Government)

### SECTOR SNAPSHOT (2014)

<b>US</b>	
Total Employment:	16,625,897
Total Establishments:	679,854
<b>Michigan</b>	
Total Employment:	548,987
LQ:	1.13
Total Establishments:	19,606
<b>East Central Michigan (PR-5)</b>	
Total Employment:	32,613
LQ:	1.29
Total Establishments:	1,131

Source: EMSI Complete Employment 2014.3

## HEALTH CARE EMPLOYMENT TRENDS

**East Central Michigan Employment****Michigan Employment****U.S. Employment**

Source (all figures): EMSI Complete Employment 2014.3. Vertical axes adjusted to show trend detail.

## SECTOR COMPONENT EMPLOYMENT TRENDS

Like the nation as a whole, East Central Michigan has seen steady growth in health care-related employment. Within the sector, however, employment at privately owned hospitals has fallen by nearly 5 percent (a loss of nearly 600 jobs) from 2010 to 2014. By contrast, employment in NAICS 621 (which includes a range of outpatient services, such as doctor's offices, diagnostic laboratories, and home health care operations) has seen a 12 percent increase during the same period. Employment in both private hospitals and residential (inpatient) facilities is higher than would be expected in a labor market of East Central Michigan's size, as evidenced by LQs of 1.70 and 1.48, respectively. These relatively high employment levels are due to the multiple large hospital campuses in the region (mostly in Saginaw County, and to a lesser extent in Bay and Midland Counties) that serve as the northernmost major hospital facilities in the State of Michigan. Many patients from areas farther north must travel to the region for specialized medical care.

Nursing-related occupations top the list of the sector's most common occupations in terms of their share of overall employment (next page). These occupations are also projected to be in strong demand in the next several years. For example, openings for registered nurses (due to both new growth and replacement needs of existing employers) are anticipated to be nearly 200 annually. Regional wage rates in the health care sector are generally on par with national rates, with few exceptions. Most notably, the median hourly wage rate for internists in East Central Michigan is less than one-half the national average. However, this discrepancy may not necessarily be a reflection of a structural issue in the regional market. Lower relative wage rates may result from the wide variation in sub-specialties encompassed by the occupation (such as cardiology, gastroenterology, and rheumatology) and the high prices that can be commanded by practitioners in the nation's largest cities.

<i>Ranked by East Central Michigan employment in 2014</i>		US		Michigan			East Central Michigan		
NAICS	Sector	Jobs (2014)	% Chg. (2010- 2014)	Jobs (2014)	% Chg. (2010- 2014)	LQ (2014)	Jobs (2014)	% Chg. (2010- 2014)	LQ (2014)
622	Hospitals (private)	4,749,981	2.4%	192,676	1.3%	1.39	12,290	-4.5%	<b>1.70</b>
621	Ambulatory Health Care Services	7,036,769	10.7%	206,128	4.8%	1.01	11,881	12.1%	1.11
623	Nursing and Residential Care Facilities	3,263,329	4.0%	104,336	5.3%	1.10	7,357	3.3%	<b>1.48</b>
90362	Hospitals (Local Government)	654,029	0.5%	13,427	2.6%	0.71	606	2.9%	0.61
71394	Fitness and Recreational Sports Centers	578,700	10.4%	12,854	5.6%	0.76	479	5.7%	0.54
90262	Hospitals (State Government)	343,088	-0.5%	19,565	15.1%	1.96	—	—	—

Source: EMSI Complete Employment 2014.3 Location Quotients (LQs) are calculated by comparing a sector's share of total local employment to the sector's national share. An LQ of 1.00 indicates that the sector commands an average (expected) share of the local economy. LQs above 1.25 indicate a strong local sector, while those less than 0.75 indicate a weak local sector.

## LEADING OCCUPATIONS OVERVIEW

## TOP 20 OCCUPATIONS IN HEALTHCARE, EAST CENTRAL MICHIGAN (2014)

Based on share of total employment in the target

SOC CODE	DESCRIPTION	OCCUPATION'S SHARE OF TOTAL EMPLOYMENT IN TARGET	REGIONAL EMPLOYMENT		MEDIAN HOURLY WAGE		TYPICAL ENTRY-LEVEL EDUCATION
			2014	Est. Annual Openings	East Central MI	Relative to US (US=1.00)	
29-1141	Registered Nurses	14.0% ■■■■■■	5,069	193	\$30.41	0.96	Associate's degree
31-1014	Nursing Assistants	11.9% ■■■■■■	4,266	158	\$12.14	1.02	Non-degree award
31-1011	Home Health Aides	6.6% ■■■■■■	2,556	152	\$9.34	0.93	Less than high school
29-2061	Licensed Practical/Voc. Nurses	3.6% ■■■■■■	1,389	68	\$19.90	0.99	Non-degree award
31-9092	Medical Assistants	3.5% ■■■■■■	1,229	38	\$12.63	0.88	Non-degree award
39-9021	Personal Care Aides	3.1% ■■■■■■	2,194	132	\$9.38	0.97	Less than high school
43-6013	Medical Secretaries	2.4% ■■■■■■	843	31	\$13.65	0.89	HS diploma/GED
43-4171	Receptionists and Info. Clerks	2.4% ■■■■■■	1,775	54	\$12.23	0.96	HS diploma/GED
43-9061	Office Clerks, General	2.1% ■■■■■■	6,685	151	\$12.44	0.92	HS diploma/GED
11-9111	Medical/Health Services Managers	1.9% ■■■■■■	728	30	\$37.29	0.86	Bachelor's degree
29-1123	Physical Therapists	1.8% ■■■■■■	621	38	\$35.54	0.92	Doctoral/prof. degree
29-2021	Dental Hygienists	1.5% ■■■■■■	501	17	\$27.75	0.80	Associate's degree
31-9091	Dental Assistants	1.4% ■■■■■■	499	12	\$15.59	0.93	Non-degree award
37-2012	Maids and Housekeepers	1.4% ■■■■■■	3,184	206	\$8.58	0.92	Less than high school
29-2041	EMTs and Paramedics	1.3% ■■■■■■	585	35	\$13.48	0.90	Non-degree award
29-2034	Radiologic Technologists	1.2% ■■■■■■	396	11	\$24.72	0.93	Associate's degree
21-1022	Healthcare Social Workers	1.1% ■■■■■■	505	20	\$23.18	0.95	Master's degree
35-2012	Cooks, Institution and Cafeteria	1.1% ■■■■■■	951	34	\$11.41	1.03	Less than high school
29-1063	Internists, General	1.0% ■■■■■■	343	9	\$40.17	0.46 ●	Doctoral/prof. degree
43-3021	Billing and Posting Clerks	1.0% ■■■■■■	807	23	\$15.67	0.96	HS diploma/GED

Source: EMSI Complete Employment 2014.3. ●/● Indicates regional wage rates less than 80% / greater than 110% of US median. Estimated annual openings represent projected new demand and anticipated replacement needed yearly through 2019.



## ADVANCED MANUFACTURING

### INDUSTRY OVERVIEW

The advanced manufacturing industry includes automotive manufacturing, advanced materials, chemicals, plastics, machinery, other advanced manufacturing sectors, and related wholesalers. The industry as defined employs nearly 26,500 workers at more than 400 establishments in the 8-county region. Employment in advanced manufacturing exceeds the national average for both the 8-county region and the state, as evidenced by LQs of 2.00 and 1.91, respectively.

### WHY EAST CENTRAL MICHIGAN?

The region, just like the State of Michigan, has a strong history of manufacturing. Today, East Central Michigan continues to have a high concentration of manufacturing activity, particularly in the chemicals, plastics, and automotive sectors. In fact, seven of the region's 8 counties have a higher percentage of manufacturing jobs than the US average. And the region is fortunate to have some major companies (Dow Chemical, Dow Corning, and Nexteer) involved in advanced manufacturing.

### TARGET NICHES

- Chemicals
- Advanced Materials
- Plastics
- Automotive
- Energy Efficiency & Clean-Tech

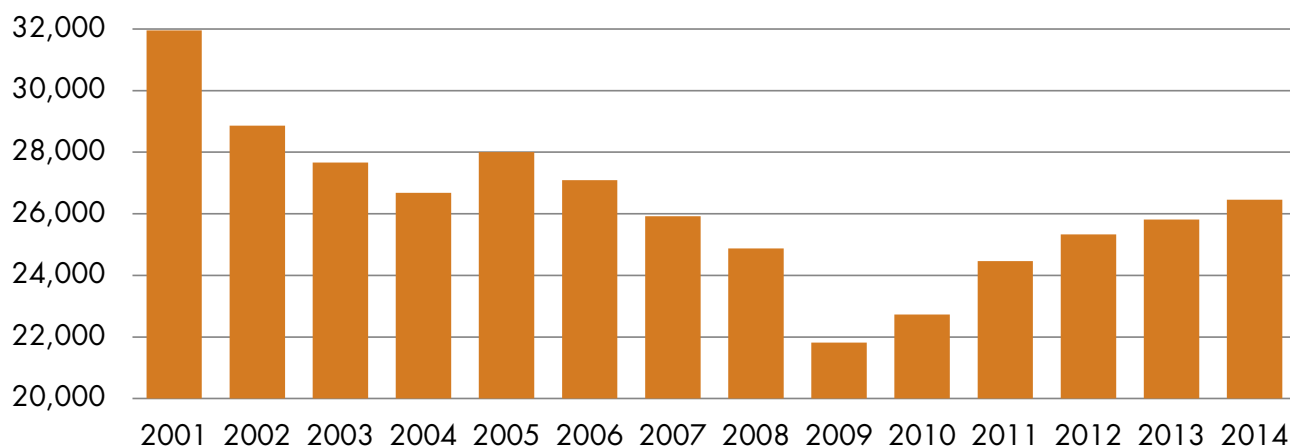
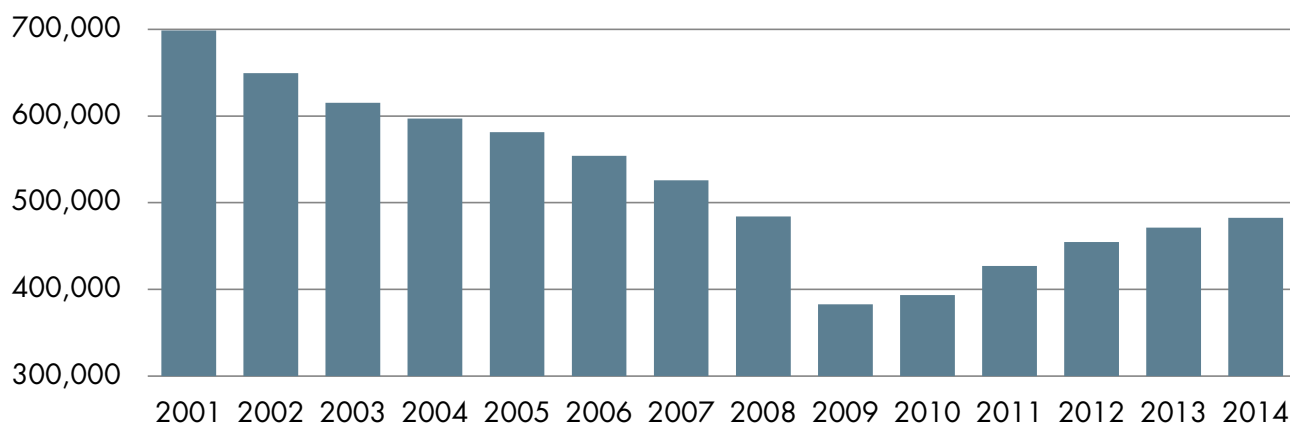
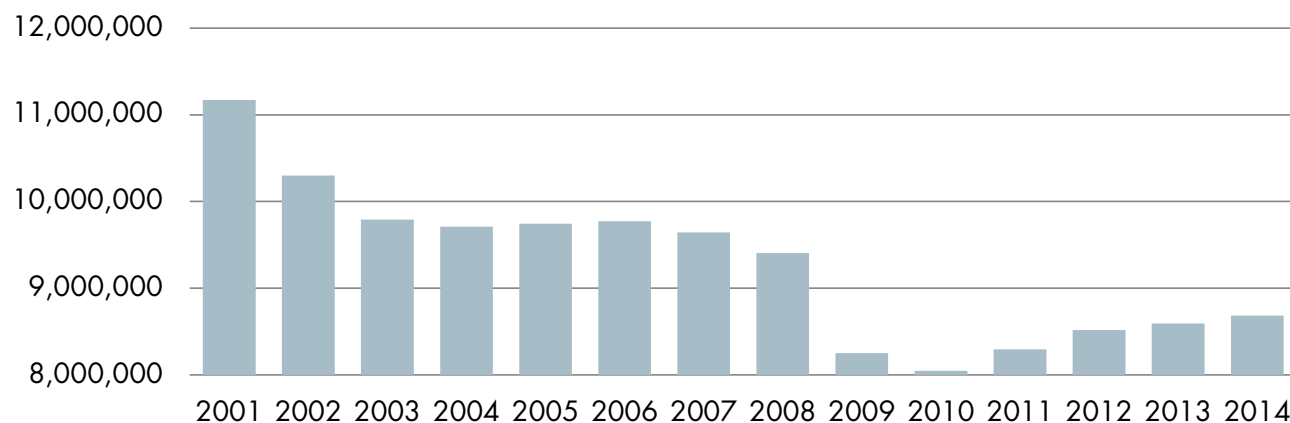
### SECTOR COMPONENTS

NAICS CODE	DESCRIPTION
325	Chemical Manufacturing
326	Plastics and Rubber Products Manufacturing
327	Nonmetallic Mineral Product Manufacturing
331	Primary Metal Manufacturing
332	Fabricated Metal Product Manufacturing
333	Machinery Manufacturing
334	Computer and Electronic Product Mfg.
335	Electrical Equipment, Appliance, and Component Manufacturing
336	Transportation Equipment Manufacturing
3391	Medical Equipment and Supplies Mfg.
42383	Industrial Machinery & Equip. Wholesalers
42384	Industrial Supplies Merchant Wholesalers
4246	Chemical and Allied Products Wholesalers

### SECTOR SNAPSHOT (2014)

<b>US</b>	
Total Employment:	8,684,168
Total Establishments:	244,660
<b>Michigan</b>	
Total Employment:	482,631
LQ:	1.91
Total Establishments:	11,844
<b>East Central Michigan (PR-5)</b>	
Total Employment:	26,460
LQ:	2.00
Total Establishments:	444

Source: EMSI Complete Employment 2014.3

**ADVANCED MANUFACTURING EMPLOYMENT TRENDS****East Central Michigan Employment****Michigan Employment****U.S. Employment**

Source (all figures): EMSI Complete Employment 2014.3. Vertical axes adjusted to show trend detail.

## SECTOR COMPONENT EMPLOYMENT TRENDS

Within advanced manufacturing, three industries comprise roughly two-thirds of the region's total employment in the sector as defined: transportation equipment (NAICS 336), chemicals (NAICS 325), and machinery (NAICS 333). Not surprisingly, East Central Michigan's employment in these industries is well above the level that would be expected based on national patterns. The region has a particularly high concentration of employment in chemical manufacturing, with an LQ of 4.34. The industry's role in the region can also be seen in the relatively high wage rates and strong demand for chemists and chemical equipment operators (next page). Wage rates for sales representatives—a key occupation that cuts across a wide range of manufacturing industries—are low relative to the US.

<i>Ranked by East Central Michigan employment in 2014</i>		US		Michigan			East Central Michigan		
NAICS	Sector	Jobs (2014)	% Chg. (2010-2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)
336	Transportation Equipment Manufacturing	1,550,342	16.0%	171,950	30.3%	3.81	6,886	38.3%	<b>2.91</b>
325	Chemical Manufacturing	805,098	1.8%	29,585	15.4%	1.26	5,333	10.1%	<b>4.34</b>
333	Machinery Manufacturing	1,122,714	12.4%	69,875	25.4%	2.14	4,960	27.8%	<b>2.90</b>
332	Fabricated Metal Product Manufacturing	1,460,240	12.8%	81,944	26.1%	1.93	2,711	30.1%	1.22
326	Plastics and Rubber Products Manufacturing	664,787	6.3%	38,037	26.2%	1.97	1,723	0.1%	<b>1.70</b>
327	Nonmetallic Mineral Product Manufacturing	393,786	3.8%	9,592	-15.4%	0.84	1,210	-6.2%	<b>2.01</b>
3391	Medical Equipment and Supplies Manufacturing	317,986	1.4%	11,976	9.7%	1.29	812	-8.1%	<b>1.67</b>
331	Primary Metal Manufacturing	397,595	9.7%	21,115	15.0%	1.82	779	-17.1%	<b>1.28</b>
42383	Industrial Machinery and Equipment Merchant Wholesalers	319,067	13.0%	13,732	13.7%	1.48	755	6.9%	<b>1.55</b>
334	Computer and Electronic Product Manufacturing	1,055,783	-4.5%	18,029	4.5%	0.59	422	-29.9%	0.26
335	Electrical Equipment, Appliance, and Component Manufacturing	377,492	5.3%	10,734	13.1%	0.98	422	-10.0%	0.73
4246	Chemical and Allied Products Merchant Wholesalers	130,583	6.3%	3,571	-4.0%	0.94	376	45.9%	<b>1.89</b>
42384	Industrial Supplies Merchant Wholesalers	88,695	16.3%	2,490	40.0%	0.96	72	-5.5%	0.53

Source: EMSI Complete Employment 2014.3 Location Quotients (LQs) are calculated by comparing a sector's share of total local employment to the sector's national share. An LQ of 1.00 indicates that the sector commands an average (expected) share of the local economy. LQs above 1.25 indicate a strong local sector, while those less than 0.75 indicate a weak local sector.

## LEADING OCCUPATIONS OVERVIEW

## TOP 20 OCCUPATIONS IN ADVANCED MANUFACTURING, EAST CENTRAL MICHIGAN (2014)

Based on share of total employment in the target

SOC CODE	DESCRIPTION	OCCUPATION'S SHARE OF TOTAL EMPLOYMENT IN TARGET	REGIONAL EMPLOYMENT		MEDIAN HOURLY WAGE		TYPICAL ENTRY-LEVEL EDUCATION
			2014	Est. Annual Openings	East Central MI	Relative to US (US=1.00)	
51-2092	Team Assemblers	6.8% ■■■□□	2,270	49	\$14.14	1.04	HS diploma/GED
17-2112	Industrial Engineers	5.5% ■■■□□	1,704	45	\$36.86	0.95	Bachelor's degree
51-4041	Machinists	4.8% ■■□□□	1,391	41	\$18.93	1.00	HS diploma/GED
51-1011	First-Line Supervisors of Production and Operating Workers	3.4% ■■□□□	1,227	24	\$24.13	0.93	Non-degree award
41-4012	Sales Reps., Wholesale and Mfg., Except Tech./Scientific Products	2.7% ■■□□□	1,954	48	\$20.01	0.77 ●	HS diploma/GED
51-4072	Molding/Coremaking/Casting Machine Workers, Metal & Plastic	2.4% ■■□□□	654	10	\$12.74	0.93	HS diploma/GED
51-4121	Welders/Cutters/Solderers/Brazers	2.3% ■■□□□	836	28	\$15.99	0.91	HS diploma/GED
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	2.2% ■■□□□	795	24	\$15.10	0.89	HS diploma/GED
51-4111	Tool and Die Makers	2.1% ■■□□□	574	6	\$21.59	0.94	HS diploma/GED
11-3051	Industrial Production Managers	2.0% ■■□□□	636	13	\$46.16	1.07	Bachelor's degree
51-4031	Cutting, Punching, and Press Machine Workers, Metal & Plastic	1.9% ■■□□□	583	9	\$13.17	0.91	HS diploma/GED
17-2141	Mechanical Engineers	1.9% ■■□□□	649	22	\$35.08	0.89	Bachelor's degree
43-9061	Office Clerks, General	1.8% ■■□□□	6,685	151	\$12.44	0.92	HS diploma/GED
49-9071	Maint. & Repair Workers, General	1.8% ■■□□□	2,132	57	\$14.95	0.87	HS diploma/GED
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	1.8% ■■□□□	492	18	\$16.77	0.97	HS diploma/GED
11-1021	General and Operations Mgrs.	1.8% ■■□□□	2,666	69	\$37.59	0.81	Bachelor's degree
49-9041	Industrial Machinery Mechanics	1.8% ■■□□□	740	34	\$21.52	0.94	HS diploma/GED
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1.7% ■■□□□	2,760	110	\$11.91	1.03	Less than high school
19-2031	Chemists	1.5% ■□□□□	504	20	\$43.42	1.25 ●	Bachelor's degree
51-9011	Chemical Equip. Ops./Tenders	1.5% ■□□□□	393	25	\$26.12	1.14 ●	HS diploma/GED

Source: EMSI Complete Employment 2014.3. ●/● Indicates regional wage rates less than 80% / greater than 110% of US median. Estimated annual openings represent projected new demand and anticipated replacement needed yearly through 2019.

## VALUE-ADDED AGRICULTURE & FOOD PROCESSING

### INDUSTRY OVERVIEW

The value-added agriculture & food processing industry includes crop production, animal production, food manufacturing, breweries, wineries, distilleries, farmers markets, and related wholesalers and distributors. The industry as defined employs roughly 5,600 workers across nearly 350 establishments in the 8-county region. Employment in value-added agriculture in East Central Michigan and the state as a whole is less concentrated than the US, with LQs well below 1.00 for both areas (0.69 and 0.81, respectively).

### WHY EAST CENTRAL MICHIGAN?

East Central Michigan is fortunate to have some strong natural assets, the most important of which are its access to water (Lake Huron, Saginaw Bay, and Saginaw River) and possession of some of the most highly productive agricultural lands in the US. Ag-related businesses represent a major growth opportunity thanks to the growing demand for specialty foods in the national and international markets. And the value-added agriculture sector offers many opportunities for entrepreneurship and small business growth. Lastly, East Central Michigan has the potential to support a thriving locally sourced food scene through additional organic farms, farmers markets, breweries, craft food restaurants, and related businesses.

### TARGET NICHES

- Organic Farms
- High-Value Crops & Livestock
- Farmers Markets
- Breweries, Wineries, Distilleries
- Local Craft Food Restaurants

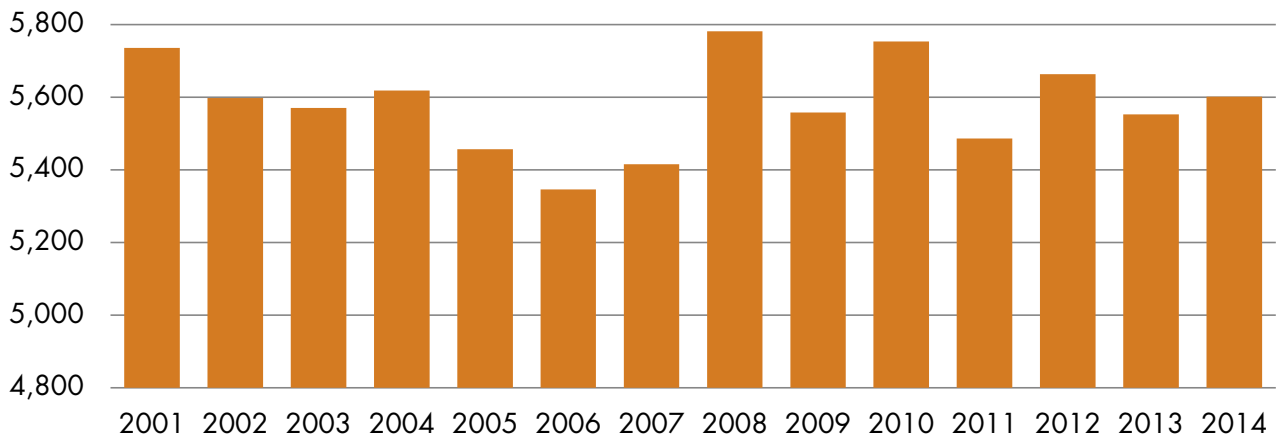
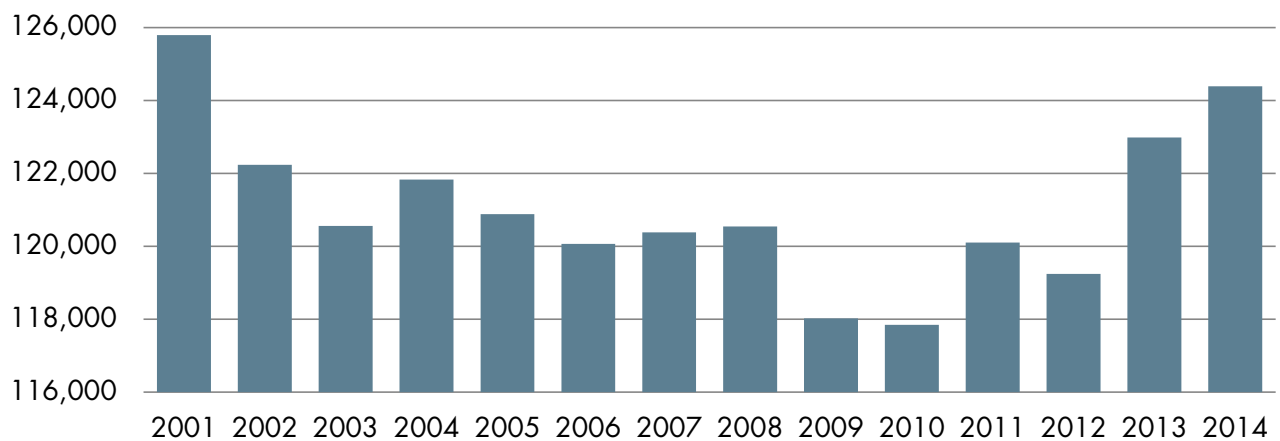
### SECTOR COMPONENTS

NAICS CODE	DESCRIPTION
111	Crop Production
112	Animal Production and Aquaculture
113	Forestry and Logging
1151	Support Activities for Crop Production
1152	Support Activities for Animal Production
1153	Support Activities for Forestry
311	Food Manufacturing
31211	Soft Drink and Ice Manufacturing
31212	Breweries
31213	Wineries
31214	Distilleries
321	Wood Product Manufacturing
42382	Farm/Garden Machinery & Equip. Wholesalers
4244	Grocery and Related Product Wholesalers
4245	Farm Product Raw Material Wholesalers
4248	Beer/Wine/Distilled Alcoholic Bev. Whlsrs.
42491	Farm Supplies Merchant Wholesalers
44422	Nursery, Garden, and Farm Supply Stores

### SECTOR SNAPSHOT (2014)

US	
Total Employment:	5,290,954
Total Establishments:	227,740
Michigan	
Total Employment:	124,386
LQ:	0.81
Total Establishments:	5,767
East Central Michigan (PR-5)	
Total Employment:	5,601
LQ:	0.69
Total Establishments:	348

Source: EMSI Complete Employment 2014.3

**VALUE-ADDED AGRICULTURE & FOOD PROCESSING EMPLOYMENT TRENDS****East Central Michigan Employment****Michigan Employment****U.S. Employment**

Source (all figures): EMSI Complete Employment 2014.3. Vertical axes adjusted to show trend detail.

## SECTOR COMPONENT EMPLOYMENT TRENDS

Food processing and animal production activities account for 44 percent of the sector's total employment as defined. The region is highly specialized in a number of component industries, with above-average LQs in production-based industries, like animal production (NAICS 112) and logging (NAICS 113), as well as in ag-related retail stores (NAICS 44422) and wholesale trade of agricultural products (NAICS 4245). The relatively high wage rates for farmworkers and agricultural equipment operators (next page) suggest the importance of these workers to the sector.

<i>Ranked by East Central Michigan employment in 2014</i>		US		Michigan			East Central Michigan		
NAICS	Sector	Jobs (2014)	% Chg. (2010-2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)	Jobs (2014)	% Chg. (2010-2014)	LQ (2014)
311	Food Manufacturing	1,498,179	2.3%	34,580	-0.4%	0.79	1,339	-16.6%	0.59
112	Animal Production & Aquaculture	419,490	-3.6%	11,005	6.0%	0.90	1,125	17.3%	<b>1.76</b>
111	Crop Production	818,125	1.8%	23,687	0.4%	0.99	652	4.5%	0.52
321	Wood Product Manufacturing	387,955	7.8%	9,734	16.3%	0.86	405	1.7%	0.68
4244	Grocery and Related Product Merchant Wholesalers	764,702	4.6%	16,794	6.3%	0.75	371	-15.5%	0.32
1151	Support Activities for Crop Production	455,224	9.9%	5,115	12.9%	0.39	342	16.5%	0.49
44422	Nursery, Garden Center, and Farm Supply Stores	124,907	14.1%	5,077	66.0%	1.40	317	50.7%	<b>1.66</b>
42382	Farm and Garden Machinery and Equipment Merchant Wholesalers	106,876	8.9%	2,267	-11.8%	0.73	253	13.8%	<b>1.55</b>
113	Forestry and Logging	82,432	-1.5%	2,771	3.4%	1.15	219	8.7%	<b>1.74</b>
4245	Farm Product Raw Material Merchant Wholesalers	76,186	-1.4%	1,313	18.2%	0.59	184	26.8%	<b>1.58</b>
31211	Soft Drink and Ice Manufacturing	95,363	0.9%	3,779	1.0%	1.36	170	64.9%	1.17
42491	Farm Supplies Merchant Wholesalers	115,801	5.7%	1,698	1.3%	0.50	170	-2.3%	0.96
1152	Support Activities for Animal Production	40,104	-1.2%	867	9.9%	0.74	41	46.7%	0.68
31212	Breweries	36,652	46.4%	1,078	157.0%	1.01	13	—	0.24
1153	Support Activities for Forestry	17,758	-0.3%	237	-14.5%	0.46	<10	—	—
31213	Wineries	53,557	27.0%	671	18.9%	0.43	<10	—	—
4248	Beer, Wine, & Distilled Alcoholic Beverage Merchant Wholesalers	188,427	14.9%	3,646	3.3%	0.66	<10	—	—
31214	Distilleries	9,217	26.2%	67	111.5%	0.25	—	—	—

Source: EMSI Complete Employment 2014.3 Location Quotients (LQs) are calculated by comparing a sector's share of total local employment to the sector's national share. An LQ of 1.00 indicates that the sector commands an average (expected) share of the local economy. LQs above 1.25 indicate a strong local sector, while those less than 0.75 indicate a weak local sector.

## LEADING OCCUPATIONS OVERVIEW

**TOP 20 OCCUPATIONS IN VALUE-ADDED AGRICULTURE & FOOD PROCESSING, EAST CENTRAL MICHIGAN (2014)** *Based on share of total employment in the target*

SOC CODE	DESCRIPTION	OCCUPATION'S SHARE OF TOTAL EMPLOYMENT IN TARGET	REGIONAL EMPLOYMENT		MEDIAN HOURLY WAGE		TYPICAL ENTRY-LEVEL EDUCATION
			2014	Est. Annual Openings	East Central MI	Relative to US (US=1.00)	
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	14.0% ■■■■■■	804	61	\$12.41	1.38 ●	Less than high school
11-9013	Farmers, Ranchers, and Other Agricultural Managers	11.6% ■■■■■■	655	18	\$14.27	1.04	HS diploma/GED
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	3.9% ■■■■■■	2,760	110	\$11.91	1.03	Less than high school
41-4012	Sales Reps., Wholesale and Mfg., Except Tech./Scientific Products	3.7% ■■■■■■	1,954	48	\$20.01	0.77 ●	HS diploma/GED
41-2031	Retail Salespersons	3.6% ■■■■■■	10,135	392	\$9.58	0.93	Less than high school
53-3032	Heavy/Tractor-Trailer Truck Drivers	3.0% ■■■■■■	2,921	67	\$17.17	0.94	Non-degree award
51-9111	Packaging and Filling Machine Operators and Tenders	2.3% ■■■■■■	490	18	\$13.84	1.09	HS diploma/GED
53-7064	Packers and Packagers, Hand	2.2% ■■■■■■	670	22	\$9.71	1.01	Less than high school
45-4022	Logging Equipment Operators	2.0% ■■■■■■	114	5	\$13.84	0.92	HS diploma/GED
43-9061	Office Clerks, General	1.9% ■■■■■■	6,685	151	\$12.44	0.92	HS diploma/GED
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	1.7% ■■■■■■	109	8	\$10.21	0.94	Less than high school
45-2091	Agricultural Equipment Operators	1.6% ■■■■■■	94	7	\$14.74	1.17 ●	Less than high school
49-3041	Farm Equipment Mechanics and Service Technicians	1.5% ■■■■■■	103	6	\$17.81	1.06	HS diploma/GED
41-2011	Cashiers	1.4% ■■■■■■	6,600	277	\$8.87	0.97	Less than high school
53-3033	Light Truck/Delivery Drivers	1.4% ■■■■■■	1,385	25	\$13.46	0.96	HS diploma/GED
43-5081	Stock Clerks and Order Fillers	1.4% ■■■■■■	2,753	80	\$10.23	0.94	Less than high school
49-9071	Maintenance and Repair Workers, General	1.3% ■■■■■■	2,132	57	\$14.95	0.87	HS diploma/GED
51-1011	First-Line Supervisors of Production and Operating Workers	1.3% ■■■■■■	1,227	24	\$24.13	0.93	Non-degree award
49-9041	Industrial Machinery Mechanics	1.1% ■■■■■■	740	34	\$21.52	0.94	HS diploma/GED
11-1021	General and Operations Mgrs.	1.1% ■■■■■■	2,666	69	\$37.59	0.81	Bachelor's degree

Source: EMSI Complete Employment 2014.3. ●/● Indicates regional wage rates less than 80% / greater than 110% of US median. Estimated annual openings represent projected new demand and anticipate replacement needed yearly through 2019.



## APPENDIX B: ECONOMIC ASSESSMENT

To provide a common framework for the Regional Prosperity Strategy, TIP began by compiling demographic and economic data on East Central Michigan. This analysis focused on the 8-county region (Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, and Saginaw counties) in the context of the state and US (where appropriate), and compared to other peer regions in the Midwestern US. The purpose is to understand the region's relative economic position and highlight its competitive advantages and disadvantages.

### ABOUT THE DATA

We based our findings on: 1) A review of relevant studies, plans, and other material provided by the East Michigan Council of Governments and others; and 2) A review of economic and demographic data from primary and secondary sources, including the US Census Bureau, the Internal Revenue Service, the US Bureau of Labor Statistics, Economic Modeling Specialists Inc. (EMSI), the National Center for Education Statistics, the National Science Foundation, and other sources.

The data and analysis is organized within three categories:

- 1. ECONOMY.** This section analyzes the overall economic conditions in each of the 8 counties and in the region as a whole compared to Michigan and the US. Data in this section includes: population growth, job growth, industry strengths, and housing market activity.
- 2. WORKFORCE.** This section analyzes the region's workforce compared to Michigan and the US. Data in this section includes: commuting patterns, occupational strengths, wage rates, educational attainment, and unemployment rates.
- 3. STATISTICAL BENCHMARKING.** This section compares the region's economy and workforce to a set of benchmark regions (5 in-state Prosperity Regions and 4 out-of-state regions). Data in this section includes: population growth, job growth, industry trends, migration patterns, industry strengths, air travel trends, educational attainment, academic R&D, income levels, and other data points.



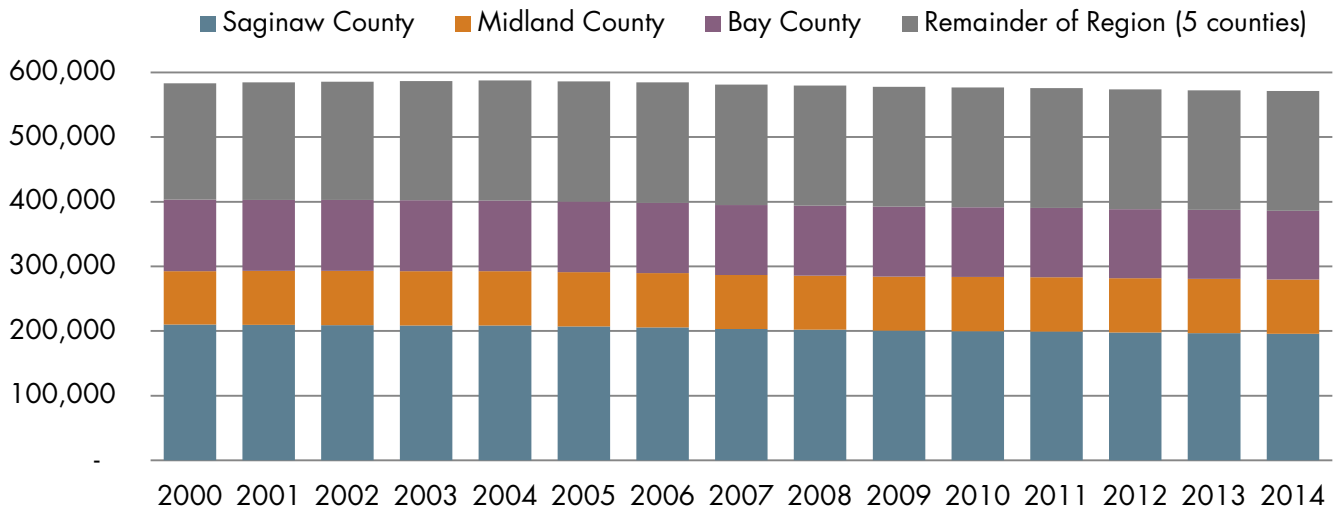
**ECONOMY**



## TOTAL POPULATION

TOTAL ANNUAL POPULATION IN EAST CENTRAL MICHIGAN, 2001-2014

East Central Michigan has seen little variation in its population over the last decade. The region's population in 2000 was 583,324 and is estimated at 571,219 in 2014, a decline of 2%.

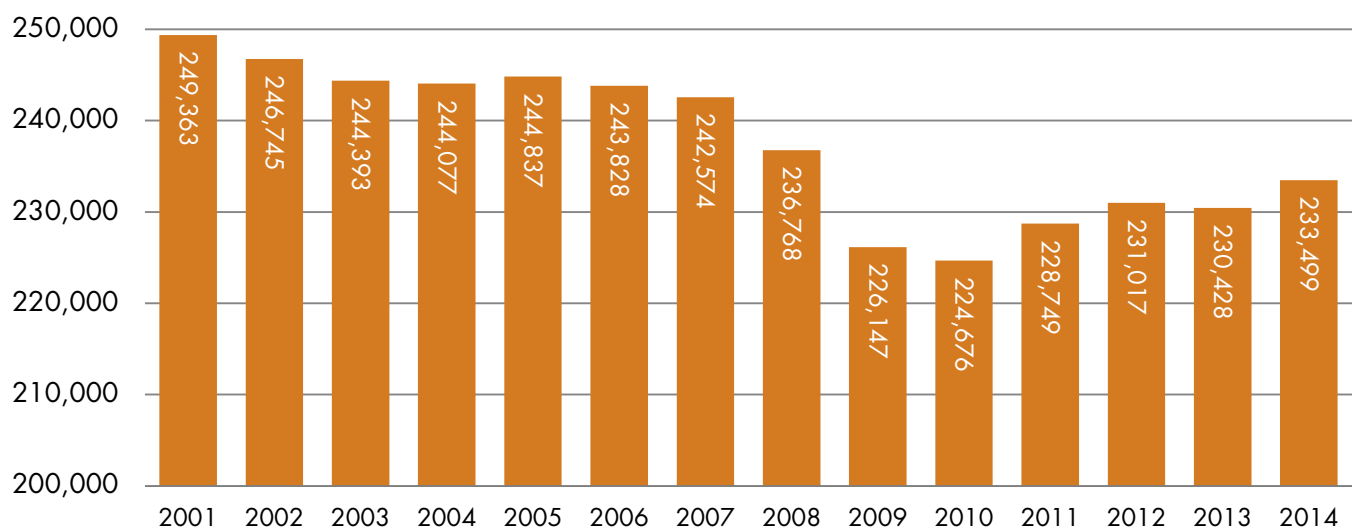


Source: EMSI Complete Employment 2014.2, US Census Bureau

## TOTAL EMPLOYMENT

TOTAL ANNUAL EMPLOYMENT IN EAST CENTRAL MICHIGAN, 2001-2014

Total employment in the area has declined since 2001, but from the lowest point (2010), the region added nearly 9,000 jobs, a change of 3.9%.

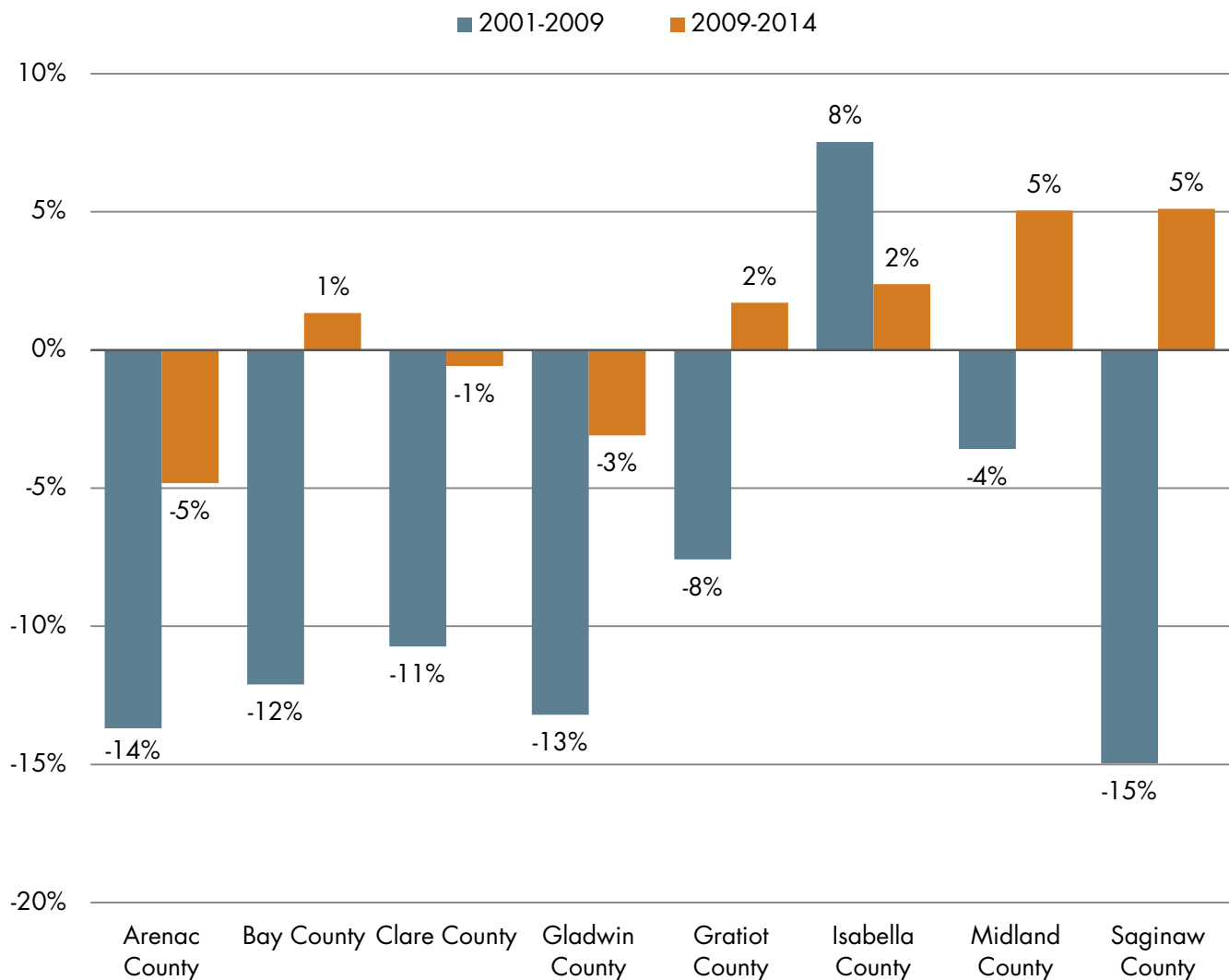


Source: EMSI Complete Employment 2014.2

## NET JOB CHANGE BY COUNTY (PRE-RECESSION & POST-RECESSION)

PERCENT CHANGE IN EMPLOYMENT BY COUNTY (2001-2009; 2009-2014)

East Central Michigan was hit hard by the Great Recession, including the years leading up to the recession. The region as a whole has experienced strong job growth since 2009, but this growth has been uneven across the region. The region's rural northern counties (Clare, Gladwin, and Arenac) are the only counties that experienced a net decline of jobs from 2001-2009 and from 2009-2014. At the other end of the spectrum, Isabella County is the only county in the region that gained jobs during both time periods, thanks to the relatively recession-proof job base provided by Central Michigan University. Saginaw County has seen a major turnaround in job creation in recent years. From 2001 to 2009, Saginaw County lost 15% of its jobs, but its employment grew by 5% from 2009 to 2013, thanks in large part to the recent resurgence in the automotive manufacturing sector.

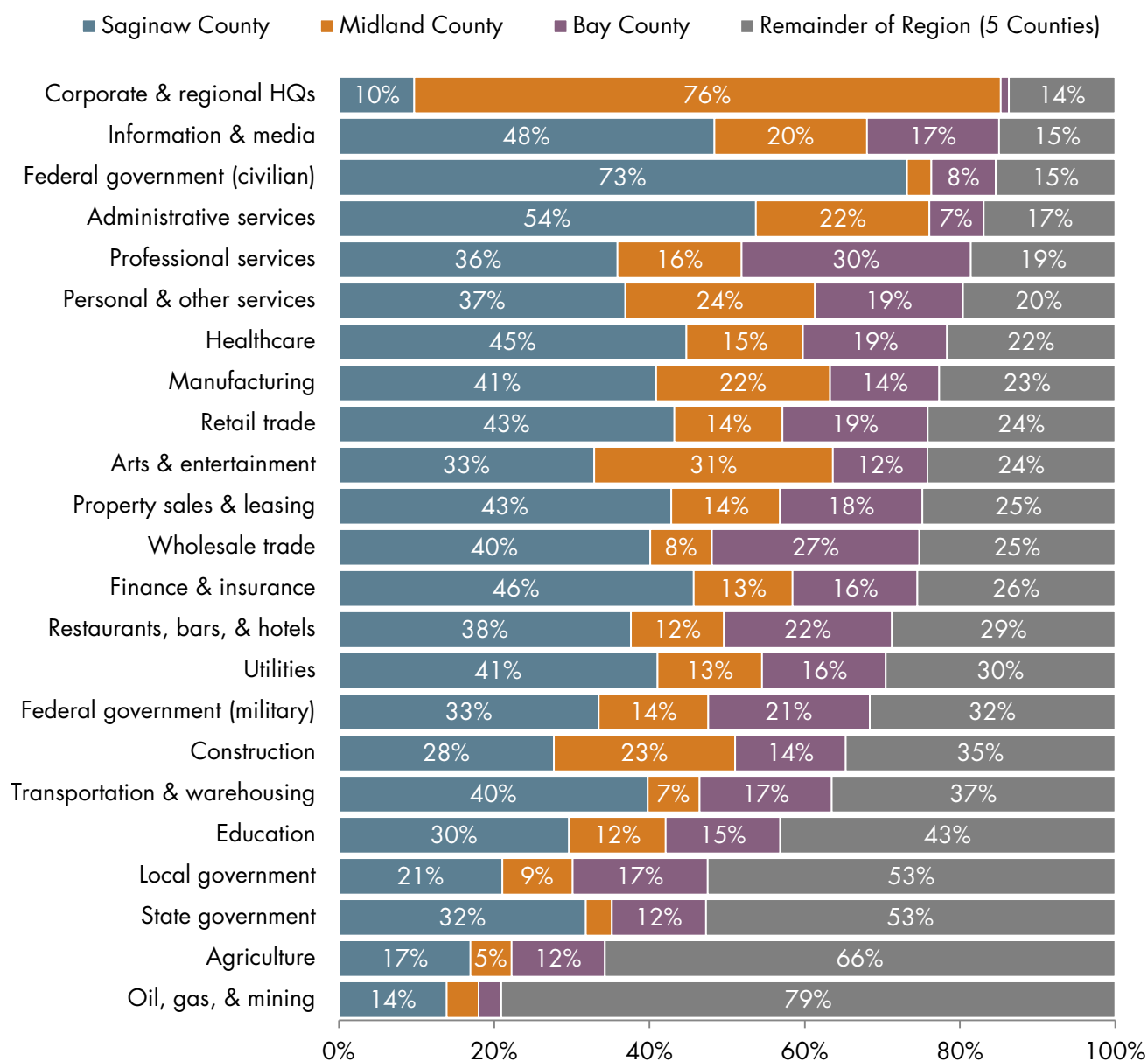


Source: EMSI Complete Employment 2014.2

## GEOGRAPHIC DISTRIBUTION OF JOBS

### GEOGRAPHIC DISTRIBUTION OF JOBS IN EAST CENTRAL MICHIGAN, 2014

East Central Michigan's urban core (Saginaw, Midland, and Bay Counties) account for the majority of the region's jobs in over 80% (19 of 23) of industry sectors. The urban core is home to 81% of the region's professional services jobs, 78% of the region's health care jobs, and 77% of the region's manufacturing jobs. The remainder of the region (Arenac, Clare, Gladwin, Gratiot, and Isabella Counties) account for the majority of the region's jobs in oil, gas, & mining (79%), agriculture (66%), state government (53%), and local government (53%).



Source: EMSI Complete Employment 2014.2

\*Note: Percentages have been rounded.

## INDUSTRY SECTOR STRENGTHS RELATIVE TO US.

### LOCATION QUOTIENTS OF MAJOR SECTORS BY COUNTY, 2014

Location quotients (LQs) are a simple measure used to gain an understanding of the relative concentration of an industry in a given geography. LQs are calculated by comparing an industry's percentage of total local employment to the industry's percentage of national employment. An LQ of 1.0 indicates that an industry commands an average (expected) share of the local economy. An LQ of 1.25 or higher generally indicates a strong local sector, whereas an LQ of 0.75 or lower indicates a weak local industry.

East Central Michigan's strongest industries are manufacturing (1.55), local government (1.45), and corporate & regional HQs (1.29). Industries that are not strong in the region include professional services (0.52), transportation & warehousing (0.57), property sales & leasing (0.65), and finance & insurance (0.68).

Manufacturing is the region's strongest industry cluster (just like Michigan as a whole), but each county has its own set of unique industry strengths. Seven of the 8 counties (not including Isabella County) have a high concentration of jobs in manufacturing. Midland County is the region's corporate center thanks to Dow Chemical, with an LQ of 5.73 in corporate & regional HQs. Agriculture is particularly strong in Arenac (2.15), Gladwin (2.51), and Gratiot (4.17) counties. Saginaw County serves as the region's most important center for goods and services, which is reflected in the county's high LQs in healthcare (1.37), retail trade (1.32), and administrative services (1.56). Health care is also concentrated in Arenac (1.73) and Bay (1.31) counties. Retail trade is also concentrated in Bay (1.32), Clare (1.31), and Gladwin (1.55) counties. And Midland County has a high concentration of jobs in administrative services (1.48).

	Arenac County	Bay County	Clare County	Gladwin County	Gratiot County	Isabella County	Midland County	Saginaw County	East Central MI (PR-5)	Michigan
Manufacturing	1.65	1.30	1.42	1.41	1.95	0.85	<b>2.04</b>	1.64	1.55	1.61
Local govt.	1.09	1.50	1.34	<b>2.21</b>	1.06	<b>4.15</b>	0.77	0.79	1.45	0.93
Corporate & regional HQs	0.00	0.08	0.00	0.00	0.29	1.13	<b>5.73</b>	0.32	1.29	0.97
Healthcare	1.73	1.31	0.84	0.88	1.12	0.75	1.05	1.37	1.18	1.06
Retail trade	1.20	1.32	1.31	1.55	0.83	0.95	0.96	1.32	1.18	1.02
Utilities	0.67	1.10	<b>2.58</b>	0.29	<b>3.26</b>	0.20	0.91	1.22	1.15	1.21
Administrative services	0.91	0.47	0.95	0.58	1.05	0.45	1.48	1.56	1.12	1.13
Personal & other services	0.62	1.27	1.11	1.77	0.71	0.63	1.60	1.06	1.11	1.00
Restaurants, bars, & hotels	1.41	1.41	1.06	0.94	0.71	1.32	0.77	1.06	1.09	0.97
Education	0.55	0.85	1.46	0.84	1.29	1.84	0.70	0.74	0.96	0.96
Construction	0.63	0.73	1.14	1.76	0.57	1.27	1.18	0.62	0.86	0.78
Agriculture	<b>2.15</b>	0.60	1.13	<b>2.51</b>	<b>4.17</b>	1.09	0.26	0.36	0.83	0.79
State govt.	0.40	0.57	0.48	0.62	<b>3.86</b>	0.96	0.15	0.64	0.78	0.66
Arts & entertainment	1.46	0.52	0.82	1.04	0.33	0.51	1.28	0.60	0.71	0.72
Finance & insurance	0.42	0.66	0.57	0.56	0.62	0.69	0.51	0.81	0.68	0.85
Property sales & leasing	0.53	0.71	0.51	0.66	0.37	0.69	0.53	0.72	0.65	0.84
Information & media	0.21	0.63	0.21	0.43	0.24	0.41	0.71	0.77	0.62	0.72
Wholesale trade	0.55	0.94	0.53	0.17	1.00	0.38	0.27	0.61	0.59	0.97
Trans. & warehousing	1.08	0.59	1.49	0.36	0.68	0.70	0.19	0.58	0.57	0.81
Professional services	0.44	0.93	0.42	0.24	0.40	0.32	0.49	0.49	0.52	1.08
Federal govt. (civilian)	0.58	0.35	0.65	0.70	0.32	0.28	0.20	0.80	0.51	0.63
Oil, gas, & mining	0.00	0.08	0.12	0.37	0.06	<b>2.32</b>	0.11	0.16	0.45	0.27
Federal govt. (military)	0.44	0.42	0.56	0.74	0.38	0.30	0.28	0.30	0.34	0.33

Location quotient descriptions: **extremely high (> 2.00)** **above average (>1.25)** **average (between 0.75 and 1.25)** **below average (<0.75)**

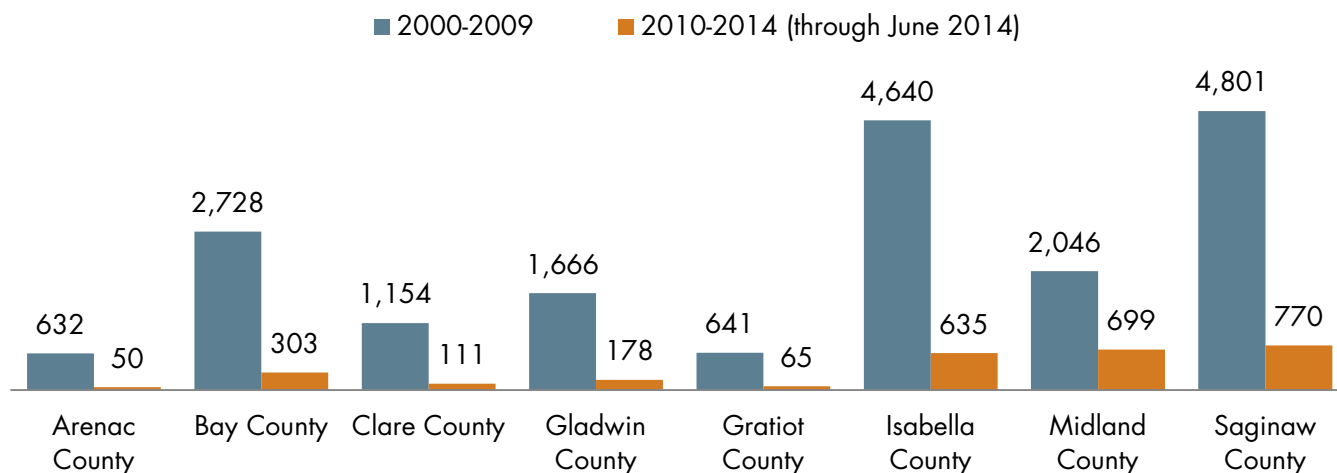
Source: EMSI Complete Employment 2014.2



## HOUSING PERMITS BY COUNTY (PRE-RECESSION & POST-RECESSION)

TOTAL NUMBER OF HOUSING UNITS PERMITTED BY COUNTY (2000-2009; 2010-2014)

The quantity of new housing being built and planned in the region is far lower than before the Great Recession, but is rising quickly. Saginaw, Midland, and Isabella counties account for 75% of the region's housing permits since 2010.

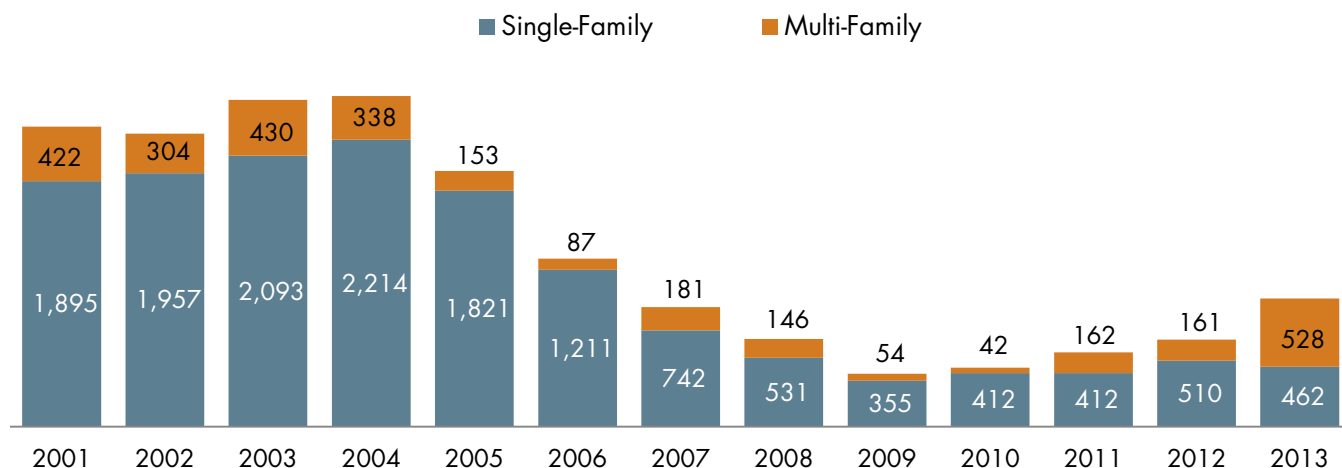


Source: US Department of Housing & Urban Development, Building Permits Database

## ANNUAL HOUSING PERMITS BY TYPE

TOTAL NUMBER OF HOUSING UNITS PERMITTED IN 8-COUNTY REGION BY TYPE (2001-2013)

The number of housing units permitted has risen each year from 2009 to 2013, a promising indicator of the growing strength of the region's economy. There were 528 multi-family permits issued in the region in 2013, the highest amount of any of the last 13 years.

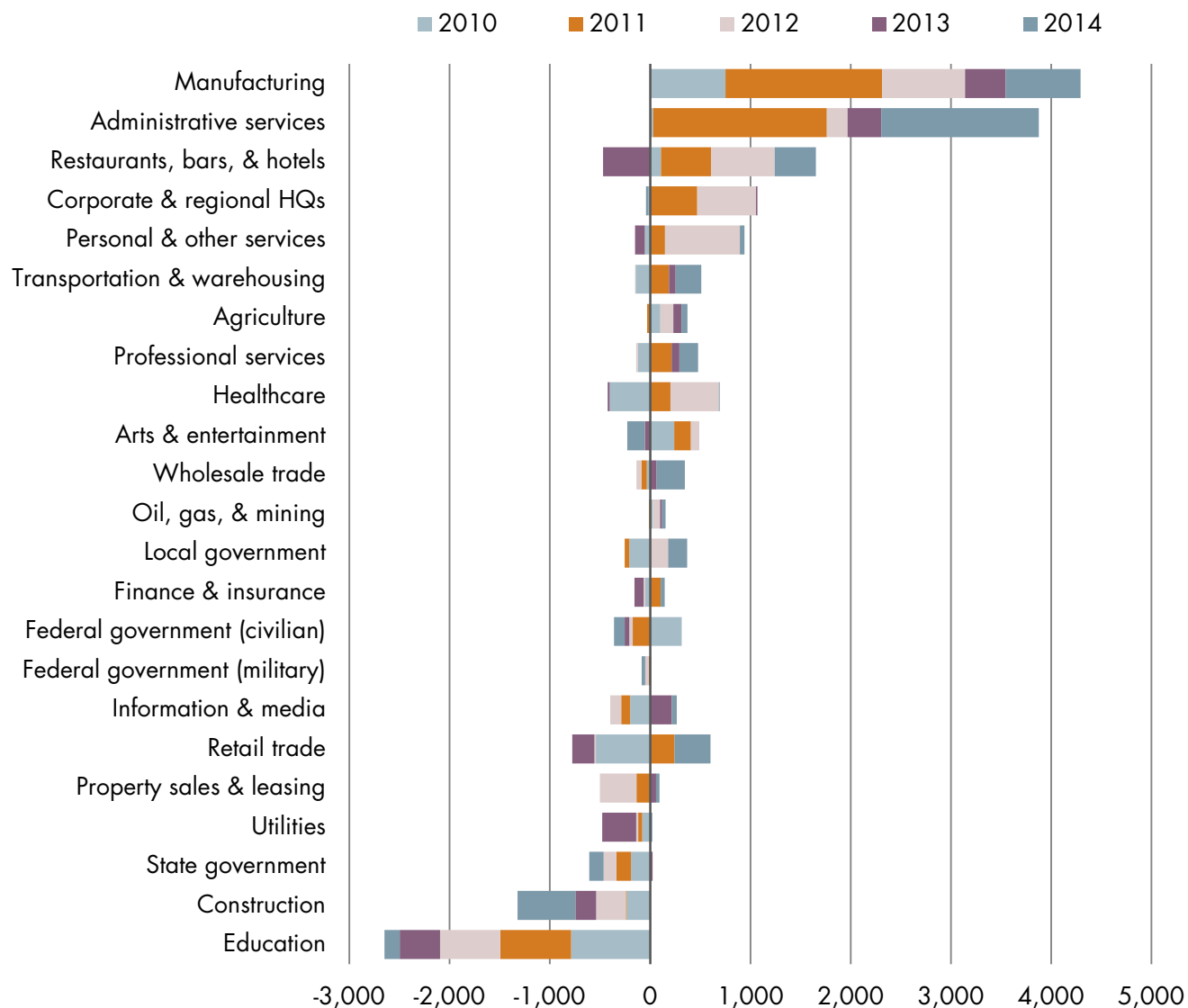


Source: US Department of Housing & Urban Development, Building Permits Database

## JOB CHANGE BY SECTOR

### ANNUAL JOB CHANGE IN EAST CENTRAL MICHIGAN BY SECTOR (2010-2014)

The rebound in manufacturing has driven the region's economic growth since the end of the Great Recession. Only two industries—manufacturing and administrative services—have experienced job growth in each of the five years since 2010. At the other extreme, construction and education are the only two industries that lost jobs each year since 2010. The agriculture, professional services, and health care sectors have seen limited job growth since 2010.

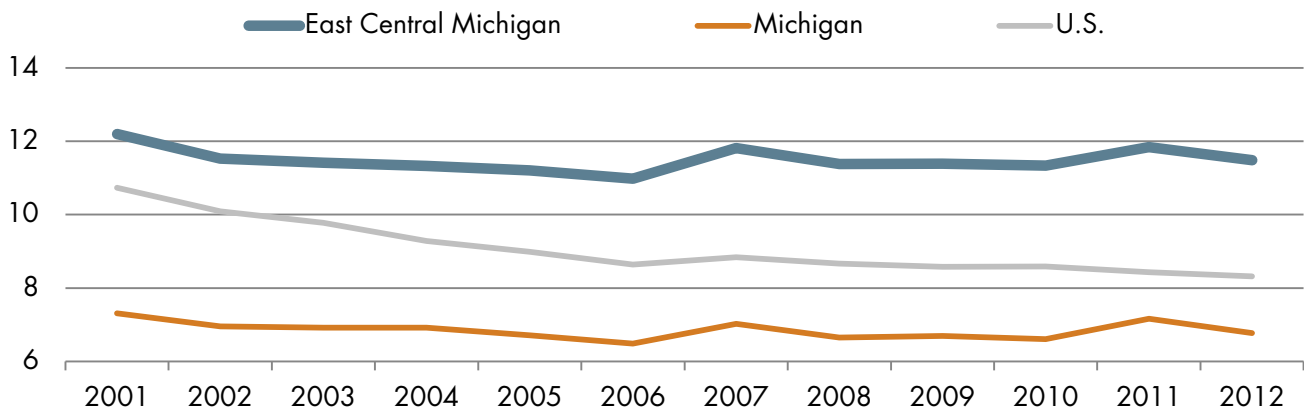


Source: EMSI Complete Employment 2014.2

## FARM EMPLOYMENT TRENDS

ANNUAL FARM EMPLOYMENT PER 1,000 RESIDENTS (2001-2012)

Farm employment in the region has been relatively stable and is much more concentrated than Michigan and the US. East Central Michigan has 11.5 farm jobs per 1,000 residents, compared to 8.3 in the US. And the region's farm employment per capita only declined by 6% from 2001 to 2012, compared to a US decline of 23%.

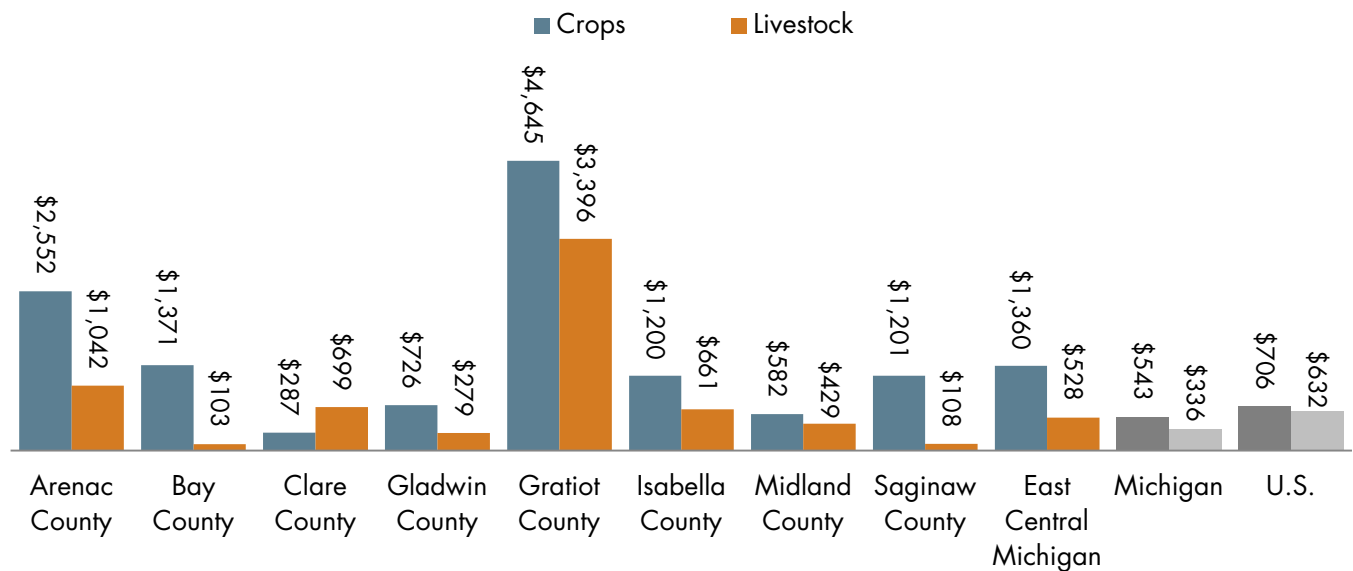


Source: US Bureau of Economic Analysis

## CASH RECEIPTS FROM CROPS & LIVESTOCK PER CAPITA

CASH RECEIPTS FROM CROPS AND LIVESTOCK PER CAPITA (2012)

Crop and livestock production play an important role in the region's economy, especially in Gratiot County where the amount of cash receipts per capita from crops and livestock was more than five times the US rate in 2012.



Source: US Bureau of Economic Analysis



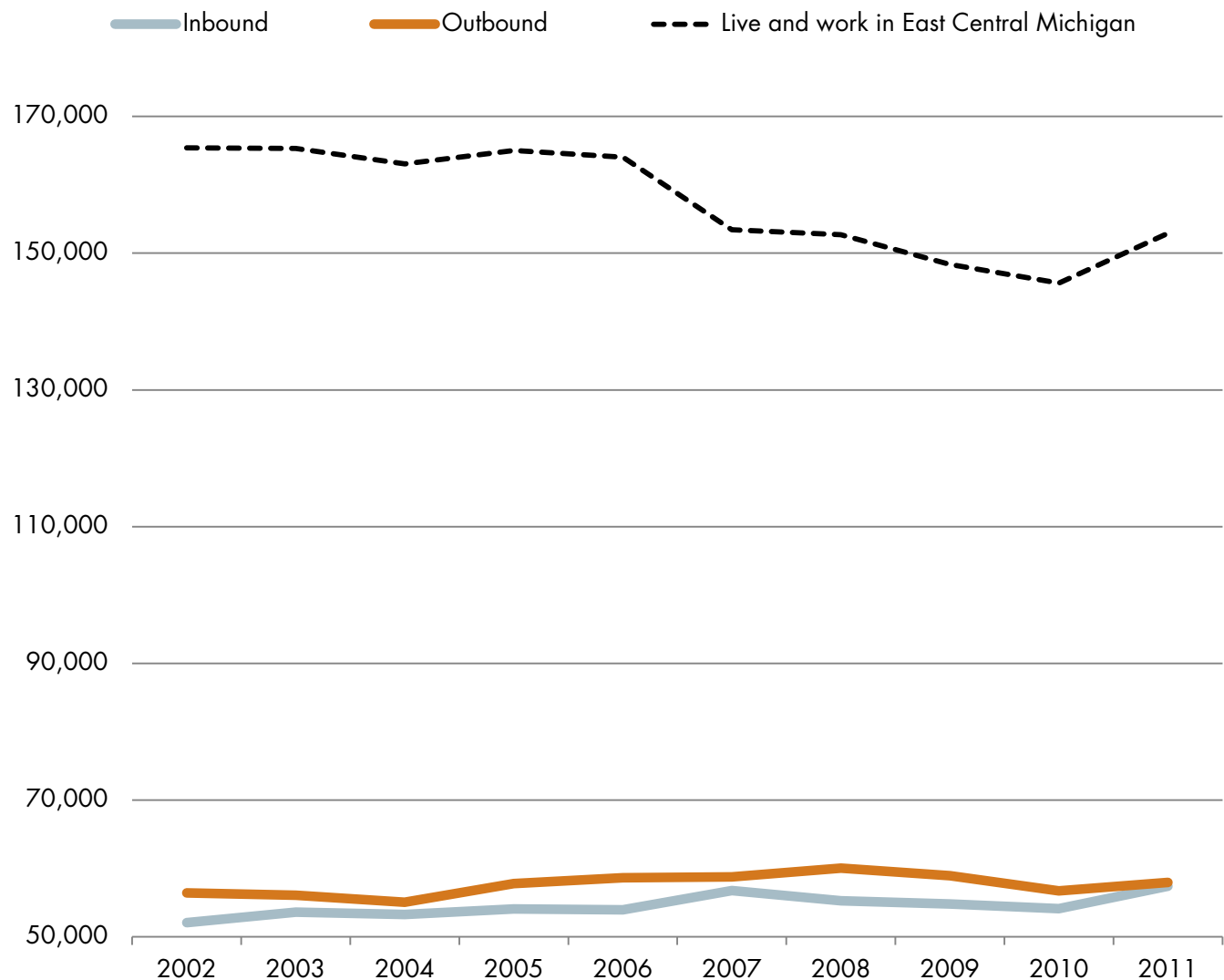
**WORKFORCE**



## NET DAILY COMMUTER TRAFFIC FOR EAST CENTRAL MICHIGAN

INBOUND, OUTBOUND, AND INTERNAL COMMUTERS IN EAST CENTRAL MICHIGAN, 2002-2011

East Central Michigan is self-sufficient in terms of commuting patterns. The majority (73%) of the region's workforce lives in the 8 counties. There are roughly equal numbers of inbound commuters (57,400) and outbound commuters (58,000) as of 2011. The ratio of inbound and outbound commuters has remained relatively unchanged since 2002. Each of these findings points to a region that truly functions as a region, at least in the flow of commuter traffic. This common regional thread is important to keep in mind, because the ultimate success of the Regional Prosperity Strategy will depend heavily on an elevated level of regional collaboration.



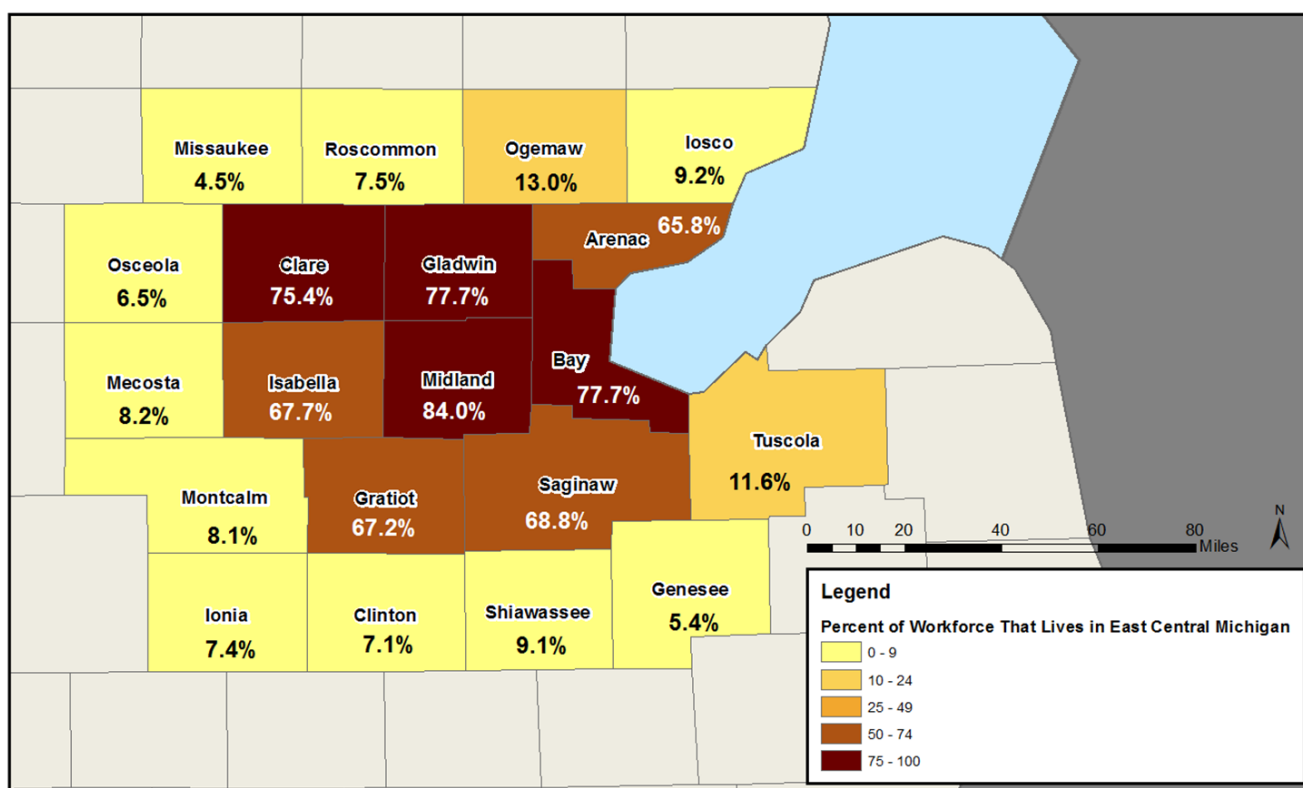
Source: US Census Bureau, Local Employment Dynamics (LED) Database

## EAST CENTRAL MICHIGAN'S LABOR SHED

PERCENTAGE OF WORKFORCE IN EACH COUNTY THAT LIVES IN EAST CENTRAL MICHIGAN, 2011

Each of East Central Michigan's 8 counties draws at least 2/3 of its workforce from within the region. There is a clear dividing line between the 8-county region and the surrounding counties. Of the 12 surrounding counties, only Ogemaw and Tuscola counties draw more than 10% of their workforce from East Central Michigan.

The Regional Prosperity Initiative has combined together counties that have had a minimal amount of regional collaboration across all 8 counties, but the region's workforce is undeniably a shared regional asset.



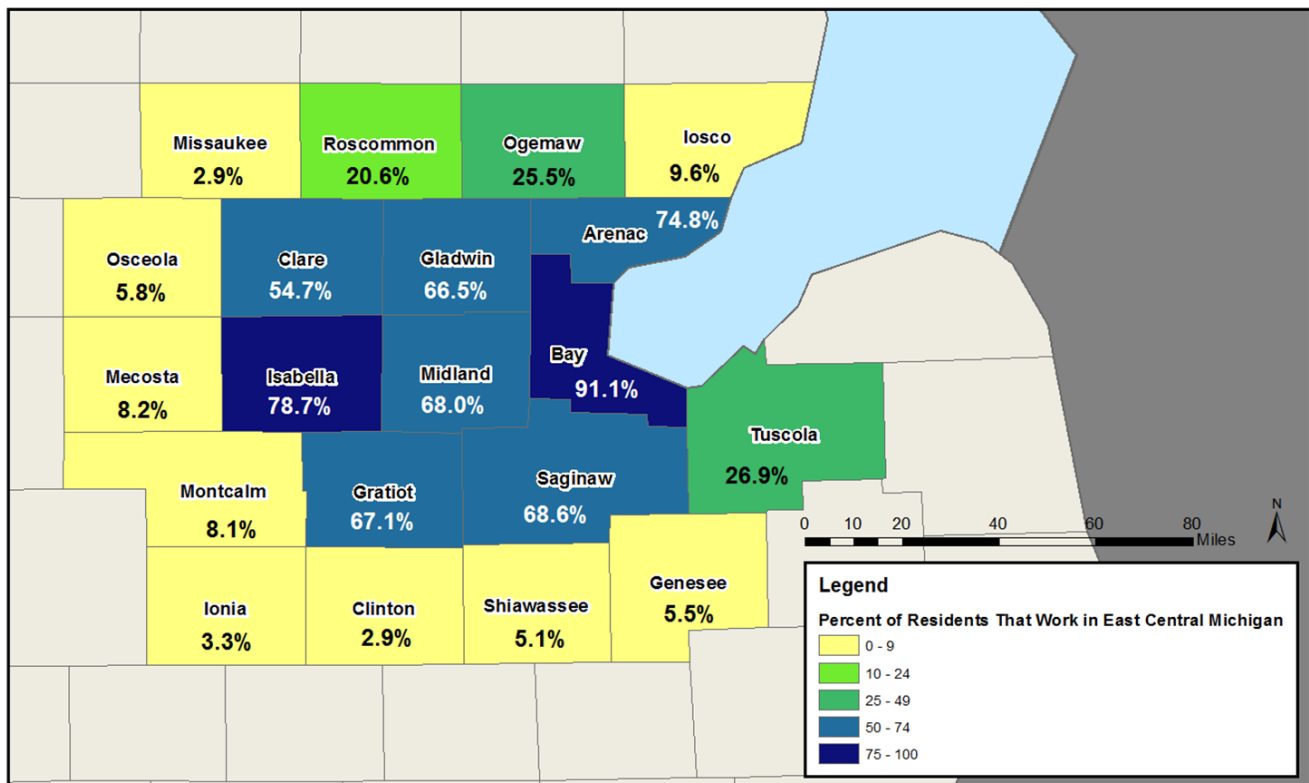
Source: US Census Bureau, Local Employment Dynamics (LED) Database



## EAST CENTRAL MICHIGAN'S COMMUTE SHED

PERCENTAGE OF EMPLOYED RESIDENTS IN EACH COUNTY THAT WORK IN EAST CENTRAL MICHIGAN, 2011

More than 50% of employed residents in each of the East Central Michigan's 8 counties stay in the region for their jobs. Similar to the region's labor shed, the commute shed also shows a clear dividing line that separates East Central Michigan from the surrounding 12 counties.

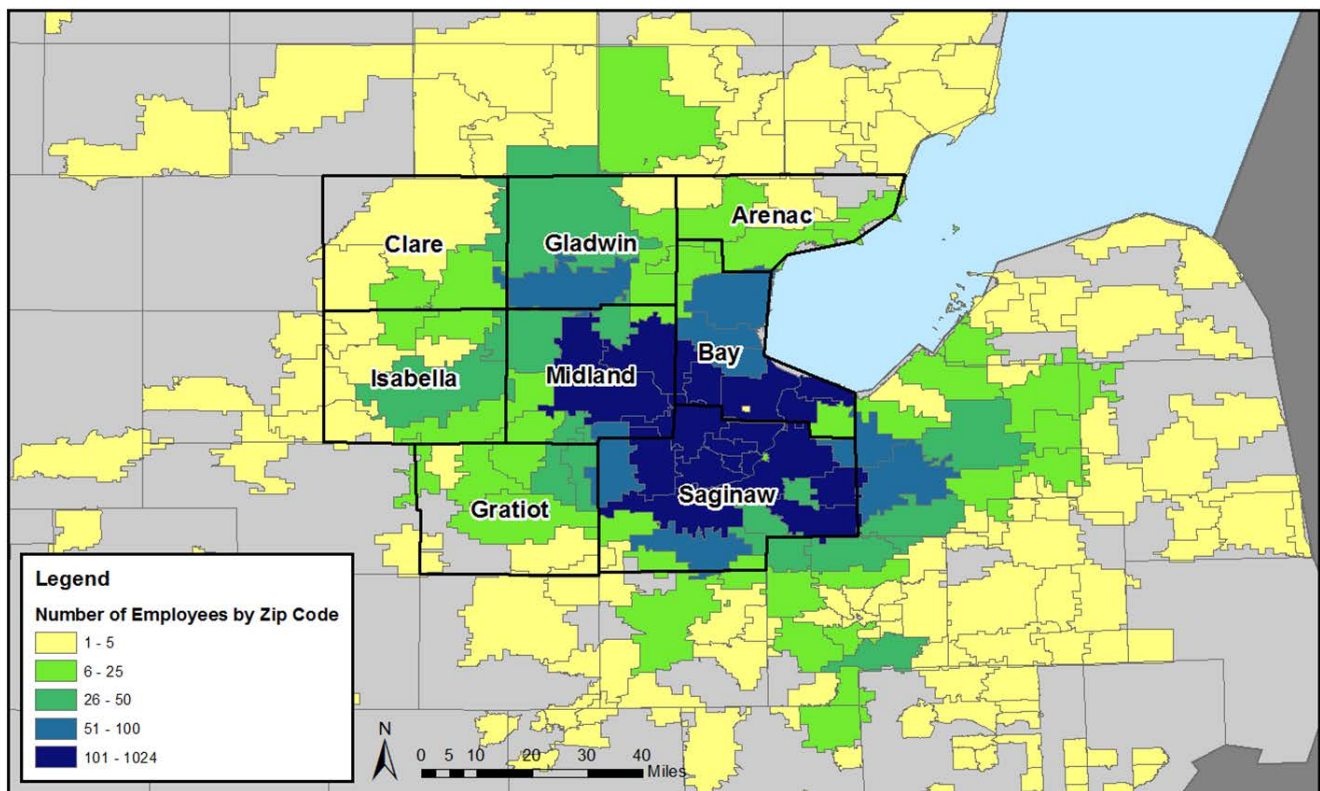


Source: US Census Bureau, Local Employment Dynamics (LED) Database

## EAST CENTRAL MICHIGAN MAJOR EMPLOYERS' LABOR SHED

NUMBER OF EMPLOYEES BY ZIP CODE THAT WORK FOR MAJOR EMPLOYERS IN EAST CENTRAL MICHIGAN, 2014

Over 90% of the workforce for the region's largest employers lives within the 8-county region. This information further underscores the importance of regional collaboration. The region's largest employers—most of which are located in Midland, Bay, and Saginaw Counties—employ a high number of residents from each of the 8 counties. And these residents, whether they live in the urban core or outside of it, support the businesses and local economy in their home communities. Thus, the region's major employers benefit the entire region, beyond the counties in which they are based. And likewise, these large employers benefit from the entire region by drawing on a regional workforce that is much larger than what exists in close proximity to their facilities.



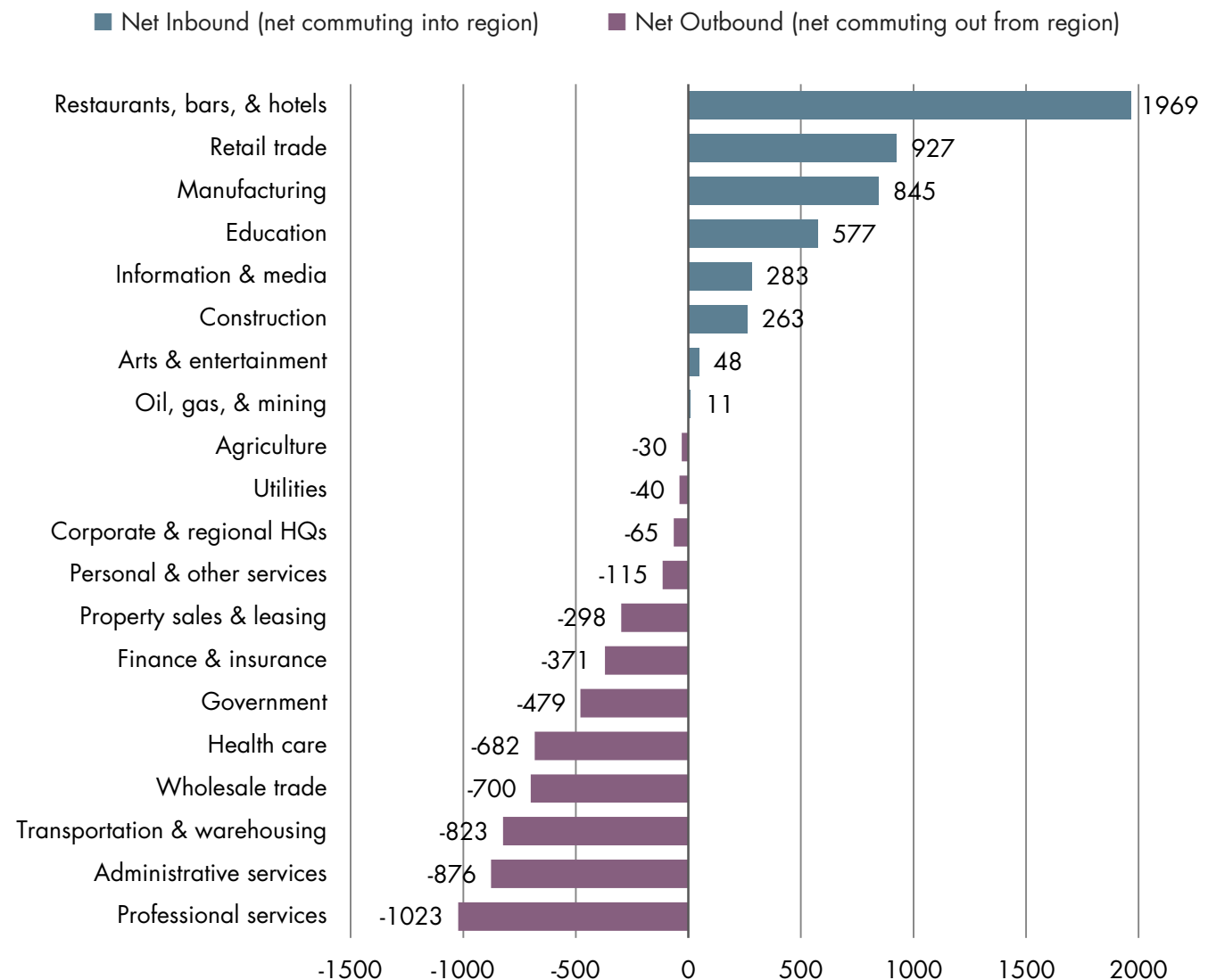
Source: HR Departments of major regional employers

## EAST CENTRAL MICHIGAN COMMUTING PATTERNS BY SECTOR

NET INFLOW/OUTFLOW OF WORKERS BY ECONOMIC SECTORS, 2011

East Central Michigan draws in workers for retail, restaurants, and manufacturing. These are industries in which the region has a high concentration, drawing in workers from surrounding counties (especially from the Thumb area and from counties just north of the region).

Commuters leave the region to work in professional services and administrative services, largely because of the relatively low amount of professional jobs (legal, architecture, engineering, accounting, IT, advertising, marketing, and consulting) available in the region. However, this is in some ways, an untapped opportunity. East Central Michigan is currently exporting professional workers. Many of these professional workers might prefer to work closer to home instead of in the Detroit metro, Lansing, or Grand Rapids. The region's professional talent could be better leveraged by the attraction or expansion of companies that rely on this talent.

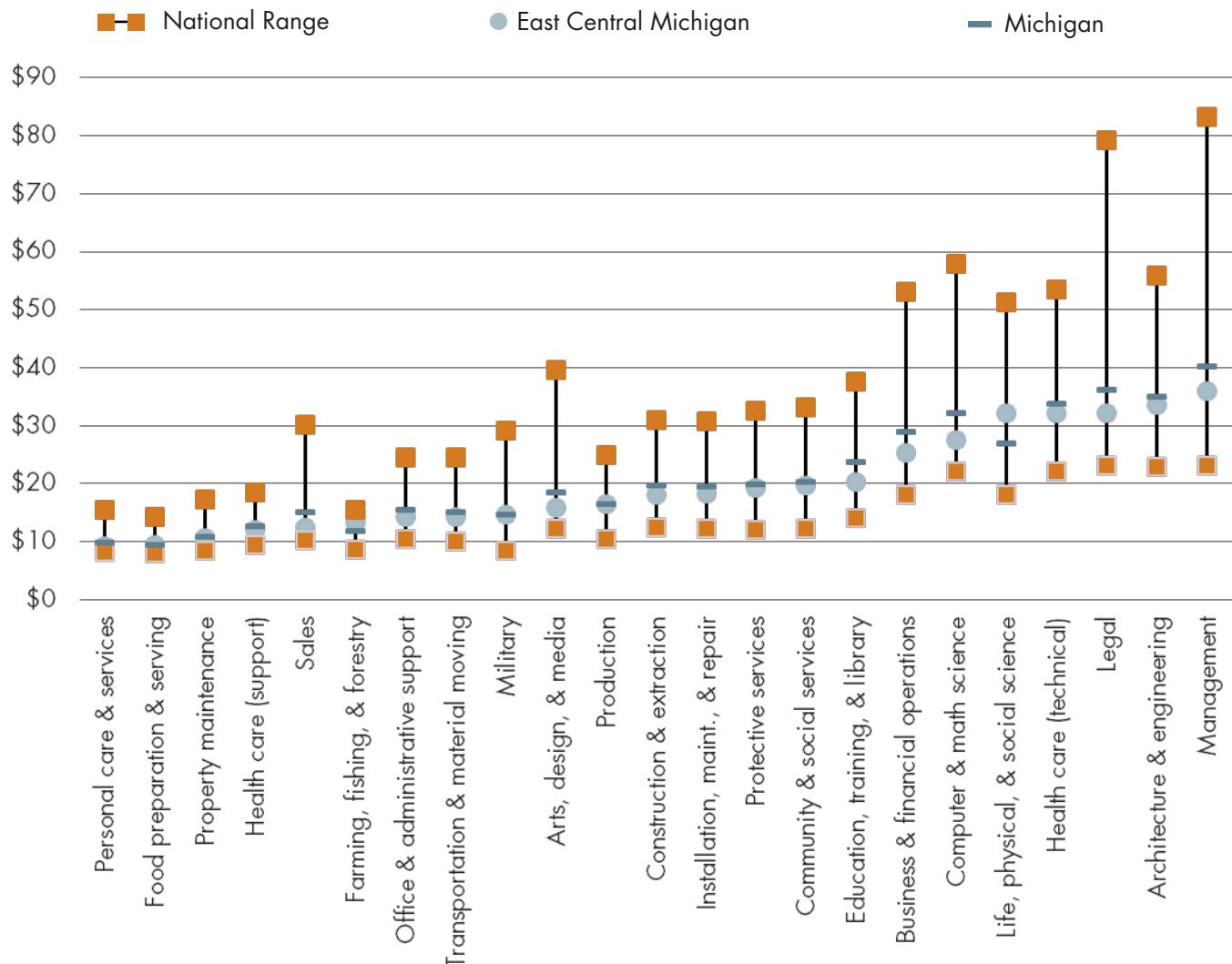


Source: US Census Bureau, Local Employment Dynamics (LED) database

## MEDIAN HOURLY WAGE RATE BY OCCUPATIONAL GROUP

LOCAL MEDIAN WAGES PRESENTED IN THE CONTEXT OF THE NATIONAL WAGE RANGE, 2014

East Central Michigan's wages are generally lower than those of Michigan as a whole. This is a double-edged sword. Lower wages are an important aspect of a strong business climate, helping employers to operate efficiently from a cost perspective. However, low wages can also make it more difficult for a community to attract and retain workers. The region's production occupations pay the same wage as Michigan. The region's only occupation with significantly higher wages than Michigan is life, physical, & social science. This is likely due to the high numbers of scientists working for Dow Chemical and Dow Corning. The region's wages are significantly lower than Michigan for the following occupations: business & finance, computer & math science, legal, and management.



Note: Circle represents the regional median wage; horizontal bar represents the state median wage; vertical line represents the national wage range between the 10th and 90th percentiles.

Source: EMSI Complete Employment 2014.3

## OCCUPATIONAL GROUP CONCENTRATIONS RELATIVE TO THE US

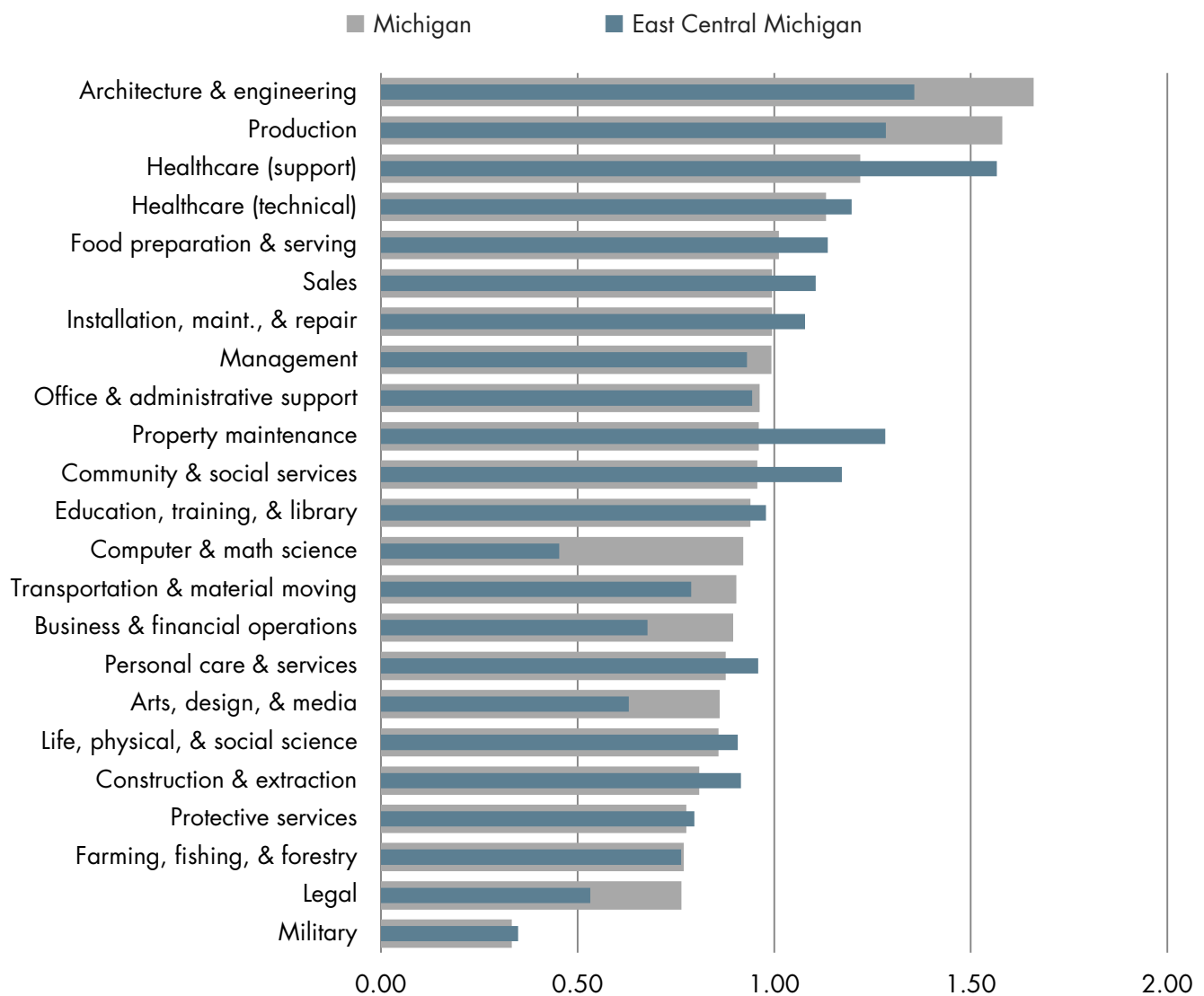
LOCATION QUOTIENT ANALYSIS, 2014

East Central Michigan has a significant concentration of workers in the following occupational groups: healthcare-support (1.57); architecture & engineering (1.36); production (1.28); and healthcare-technical (1.20). The region has a relatively low percentage of workers in these occupations: military (0.35); computer & math science (0.45); legal (0.53); arts, design, & media (0.63); and business & finance (0.68).

US average for each industry = 1.00

Regional strength > 1.25

Regional weakness < 0.75

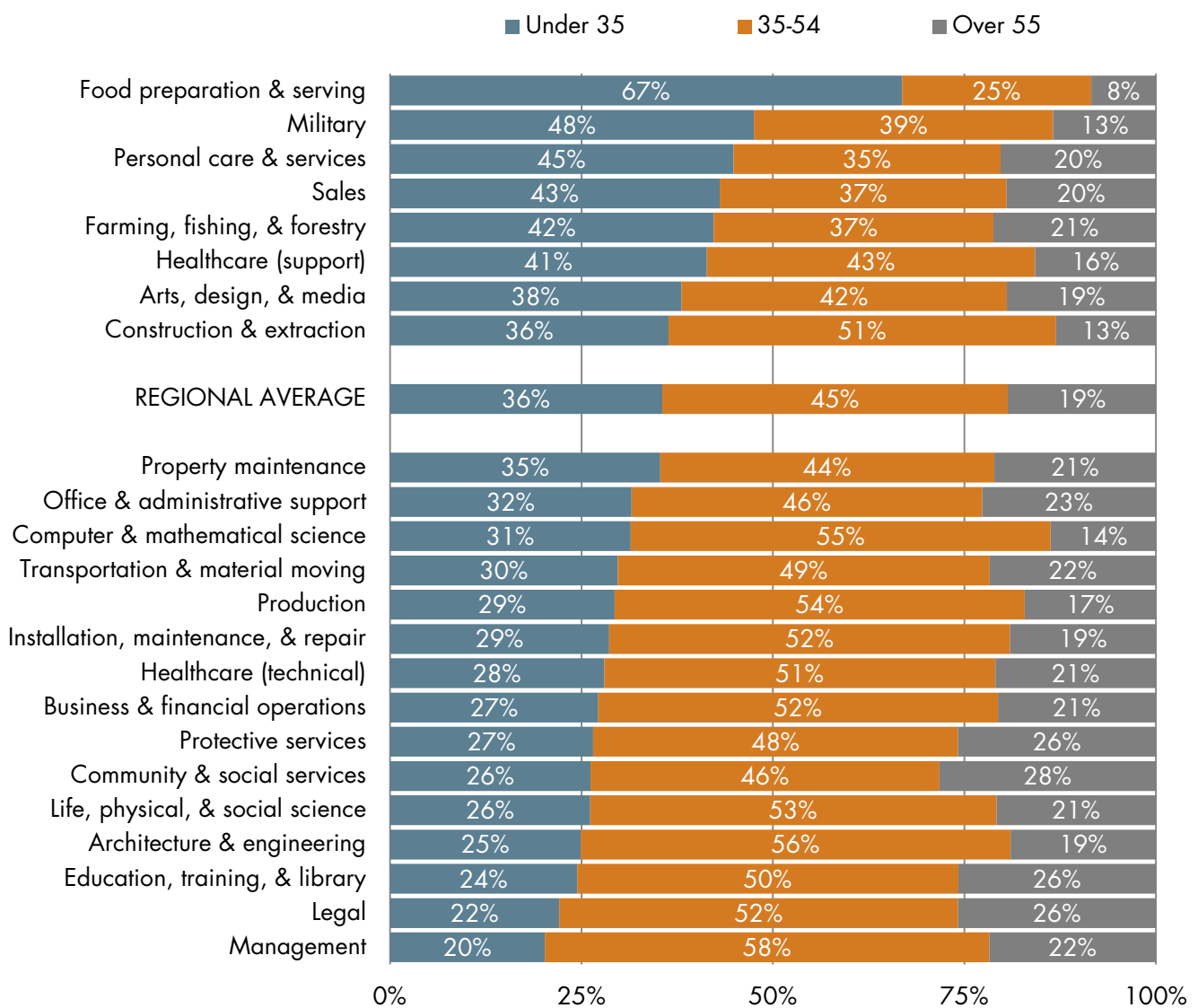


Source: EMSI Complete Employment 2014.3

## EAST CENTRAL MICHIGAN OCCUPATIONS BY AGE

OCCUPATIONAL CATEGORY BREAKDOWN BY AGE, 2014

Differences exist in the age of workers across occupational groups in East Central Michigan. Some of this is to be expected. Food preparation and serving, for example, is an entryway into the workforce for many younger workers. It makes sense that as workers age they move into other occupations. Conversely, there is a small share of managerial workers under age 35. This makes also makes sense, as these jobs tend to be filled by more experienced candidates. The managerial category also includes self-employed farmers/ranchers who are typically a more mature group. Other occupational categories that employ a high proportion of younger workers include: military; personal care & services; sales; farming, fishing, & forestry; and healthcare (support).



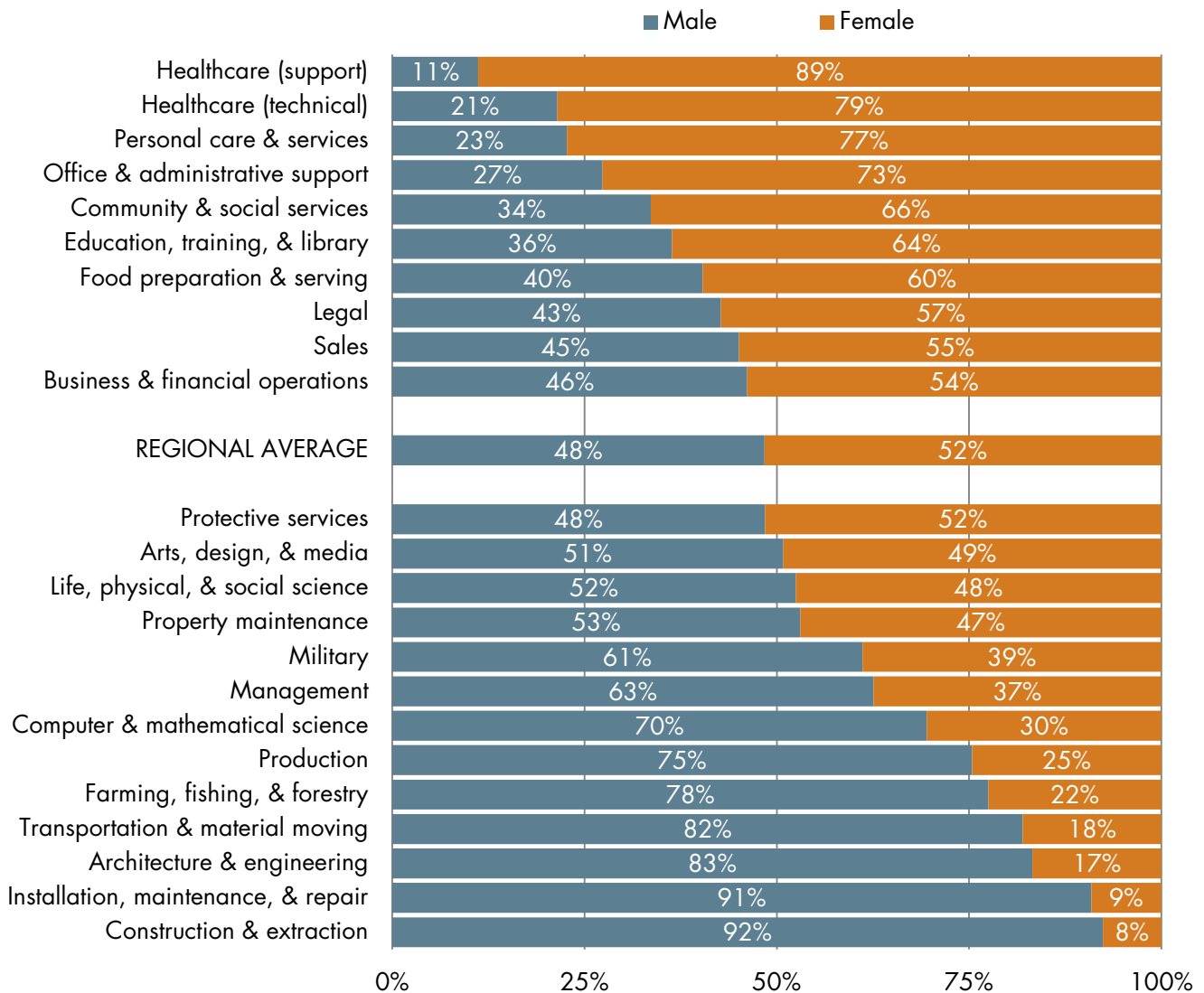
Source: EMSI Complete Employment 2014.3

## EAST CENTRAL MICHIGAN OCCUPATIONS BY GENDER

### OCCUPATIONAL CATEGORY BREAKDOWN BY GENDER, 2014

The region has a wide occupational divide by gender. Female workers are much more likely to be employed in the following occupations: healthcare (support & technical); personal care & services; office & administrative support; community & social services; and education, training, & library. Male workers cluster heavily in these occupations: construction & extraction; installation, maintenance, & repair; architecture & engineering; transportation & material moving; farming, fishing, & forestry; production; computer & math science; management; and military.

These patterns matter at the household level. Economic recessions can hit certain types of occupations disproportionately. Local policymakers must consider these issues carefully when structuring economic development strategies and workforce training programs to best match local needs.

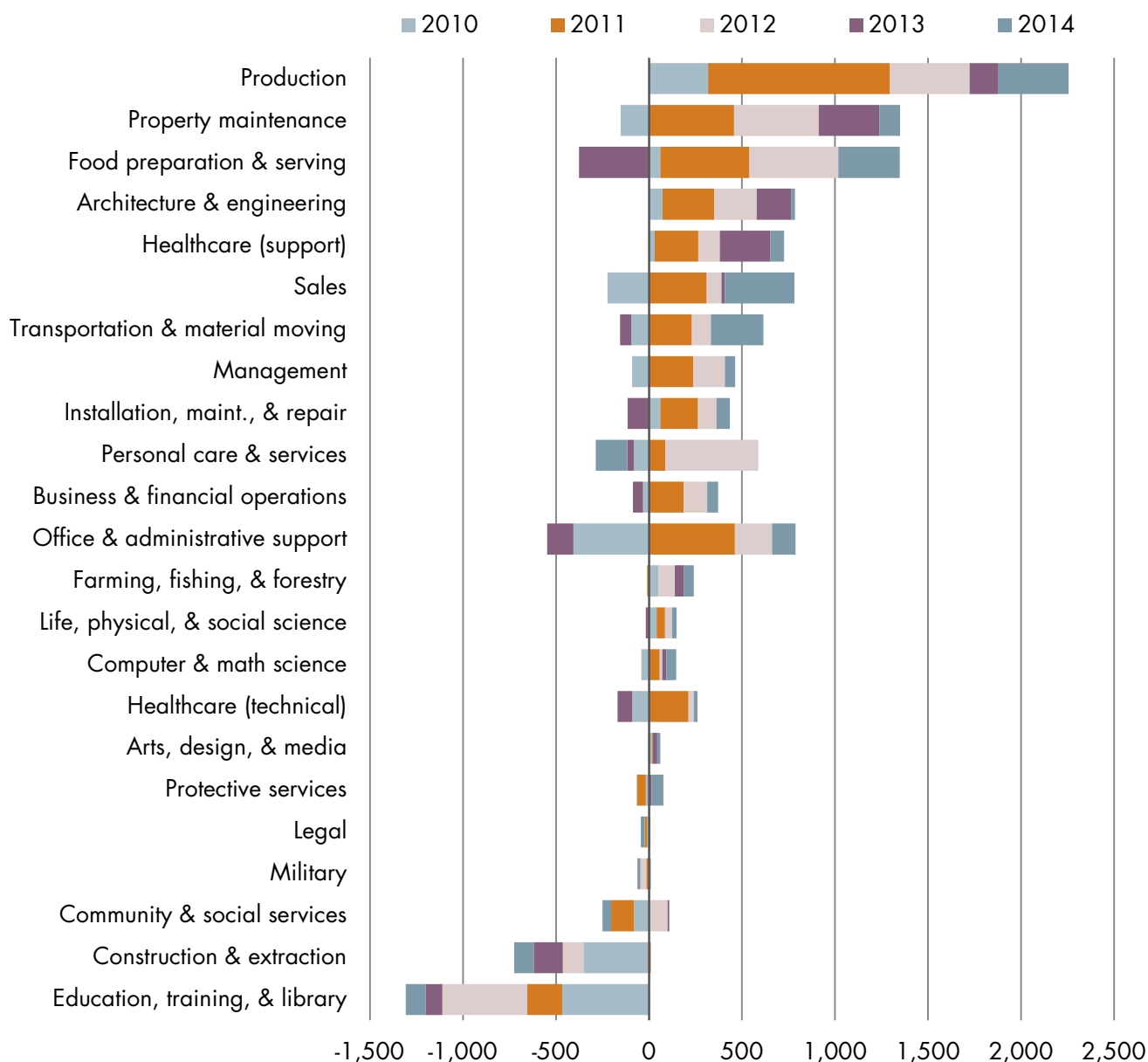


Source: EMSI Complete Employment 2014.3

## JOB CHANGE BY OCCUPATION

ANNUAL JOB CHANGE IN EAST CENTRAL MICHIGAN BY OCCUPATION (2010-2014)

Three occupational groups—production, architecture & engineering, and healthcare (support)—experienced job growth in each of the five years since 2010. The only occupational category that lost jobs each year since 2010 is education, training, & library. The construction & extraction group also lost a significant number of jobs in four of the five years, but experienced a negligible gain in 2011.



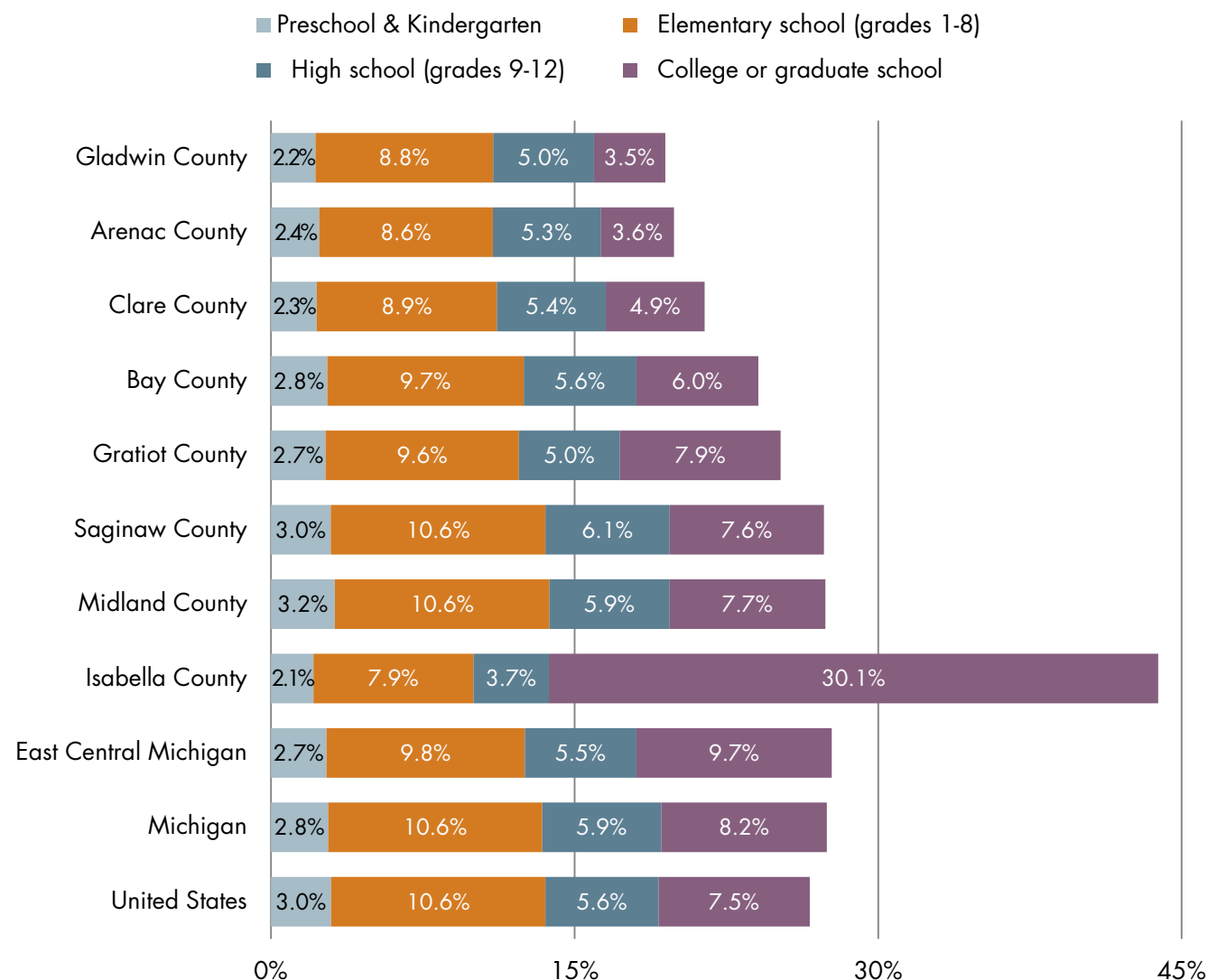
Source: EMSI Complete Employment 2014.3



## CURRENT SCHOOL ENROLLMENT

CURRENT ENROLLMENT STATUS OF POPULATION AGE 3 AND OLDER, 2012\*

27.7% of East Central Michigan's residents are currently enrolled students. This percentage is slightly higher than Michigan (27.5%) and the US (26.6%). However, this figure is skewed by Isabella County's extremely high percentage of college students (30.1% of the county's total population). The percentage of enrolled students in Midland County and Saginaw County is almost exactly the same as Michigan, but rate of enrolled students is much lower in the other five counties (Gladwin, Arenac, Clare, Bay, and Gratiot). The region's northern counties in particular (Gladwin, Arenac, and Clare), have a low percentage of students thanks to the higher proportion of retirees residing in this part of the region.



Source: US Census Bureau

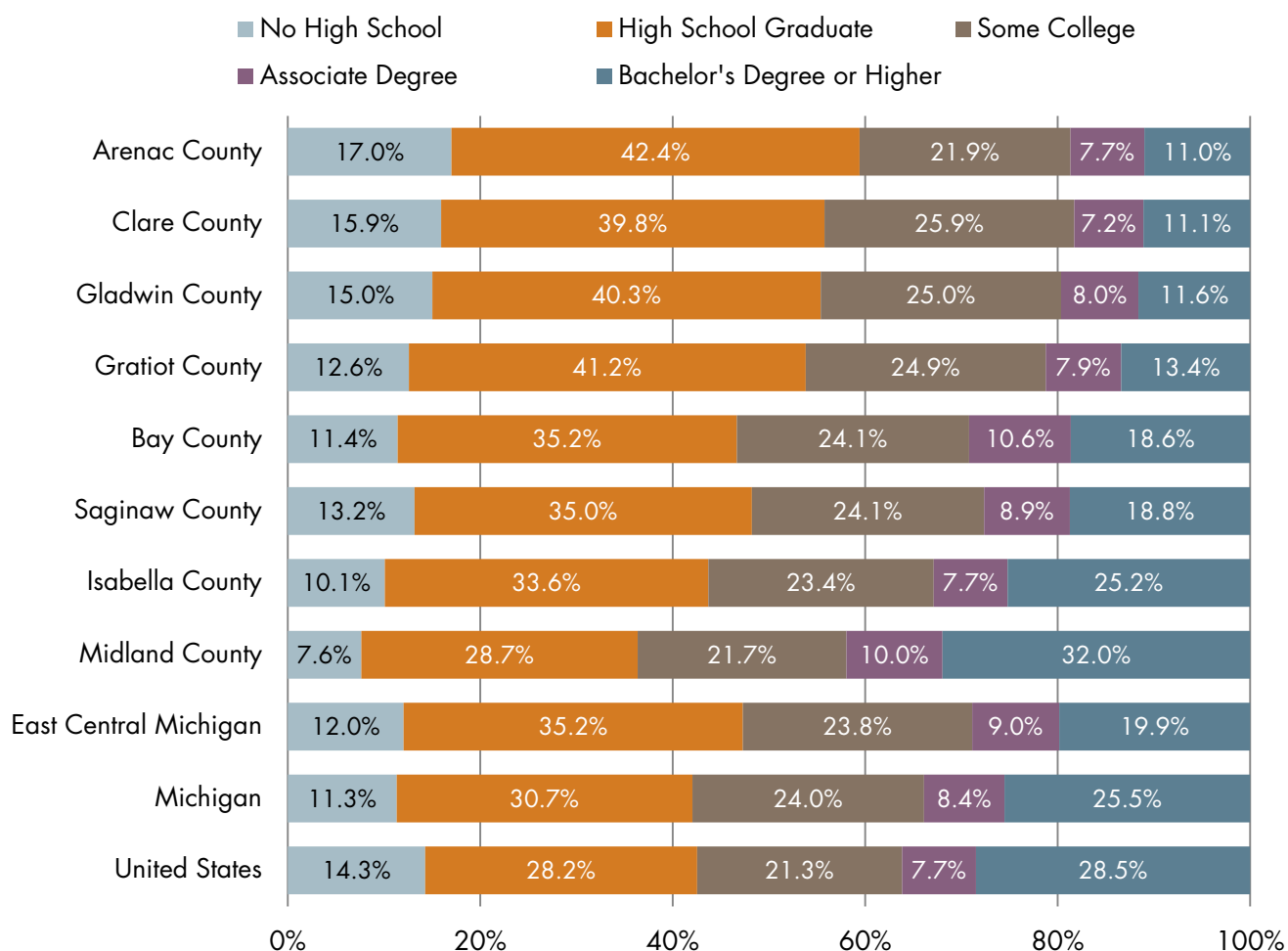
\*Data are 5-year averages for 2008-2012 from the American Community Survey

## EDUCATIONAL ATTAINMENT

HIGHEST LEVEL OF EDUCATION ACHIEVED BY POPULATION AGE 25 AND OLDER, 2012\*

East Central Michigan's percentage of adult residents (age 25 and older) without a high school education is only 12%, which compares favorably to the national average of 14.3%. However, the region has relatively low levels of residents with a college education. Only 19.9% of the region's population has a bachelor's degree or higher, compared with 25.5% in Michigan and 28.5% in the US.

Educational attainment levels differ greatly within the region. Midland County has, by far, the most educated population, with 32% of residents holding a bachelor's degree and only 7.6% of residents lacking a high school education. The region's northern counties (Arenac, Clare, and Gladwin) have much lower levels of educational attainment, each with about 11% of residents holding a bachelor's degree, and at least 15% of residents lacking a high school diploma.



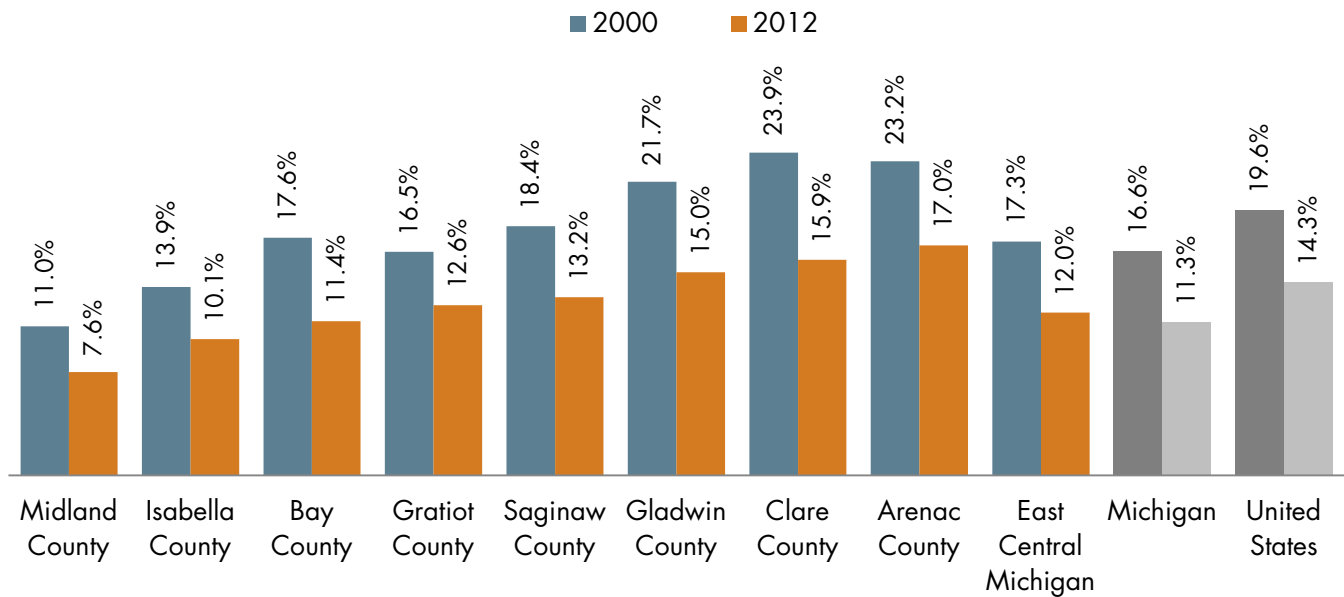
Source: US Census Bureau

\*Data are 5-year averages for 2008-2012 from the American Community Survey

## POPULATION WITH NO HIGH SCHOOL EDUCATION

PERCENT OF ADULT POPULATION (AGE 25 AND OLDER) WITH NO HIGH SCHOOL DIPLOMA, 2000 & 2012\*

East Central Michigan has seen a major improvement to its educational attainment levels in recent years. Since 2000, each of the region's counties saw a significant decline in its population without a high school diploma.



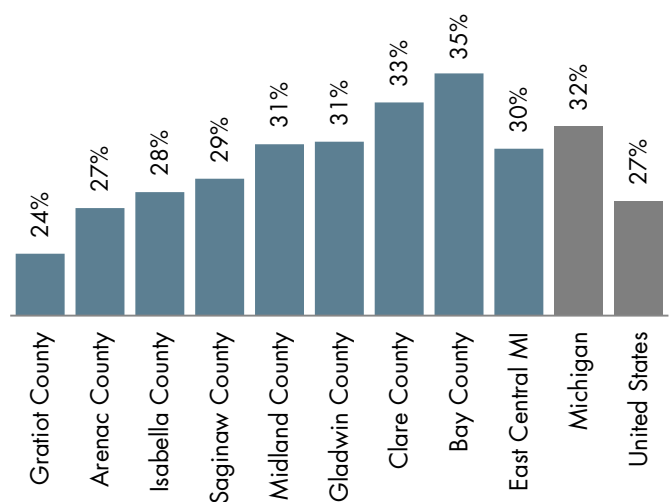
Source: US Census Bureau \*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## IMPROVEMENT IN POPULATION WITH NO HIGH SCHOOL DIPLOMA

PERCENTAGE DECLINE IN ADULT POPULATION WITHOUT A HIGH SCHOOL DIPLOMA FROM 2000 TO 2012

The decline in East Central Michigan's adult population without a high school education has outpaced the nation as a whole. The proportion of the region's residents without a high school diploma dropped by 30.4% compared to a decline of 27.1% in the US. The improvements have been particularly strong in Bay County (a 35.1% decline) and Clare County (33.3% decline).

Gratiot County and Arenac County are the only two counties that improved at a rate slightly less than the US average. Nonetheless, the improvements being made in each county's level of educational attainment are a positive sign for the future of the region's economy.

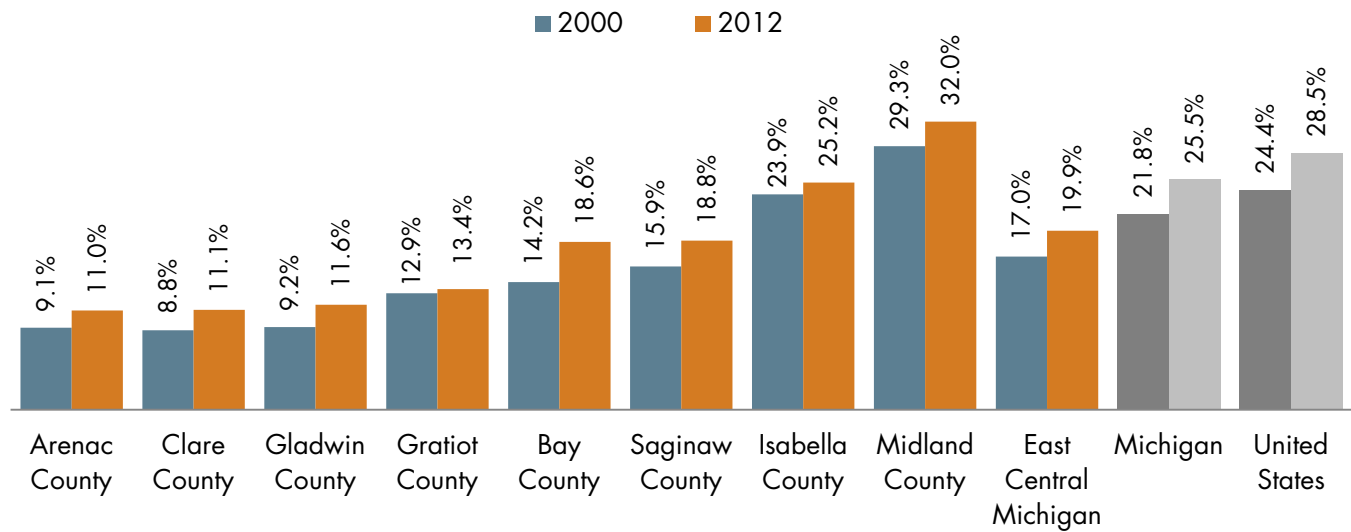


Source: US Census Bureau

## POPULATION WITH BACHELOR'S DEGREE OR HIGHER

PERCENT OF ADULT POPULATION (AGE 25 AND UP) WITH A BACHELOR'S DEGREE, 2000 & 2012\*

East Central Michigan's population has also improved its level of educational attainment at the upper end of the spectrum. Since 2000, each of the region's counties experienced a rise in the percent of college-educated residents.

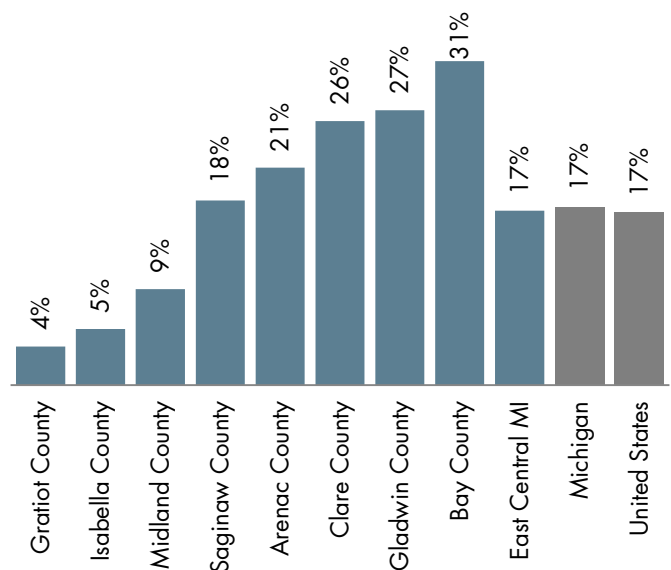


Source: US Census Bureau \*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## IMPROVEMENT IN POPULATION WITH BACHELOR'S DEGREE

PERCENT GROWTH IN ADULT POPULATION WITH A BACHELOR'S DEGREE OR HIGHER FROM 2000 TO 2012

The growth of East Central Michigan's college-educated population has mirrored the improvements in the US as a whole, with an improvement of 16.9% in the region compared to a 16.7% gain in the US. Five of the region's counties enjoyed a higher increase in the percentage of residents with a bachelor's degree than the US. Bay County, in particular, has significantly improved its level of educational attainment. The county's growth rate in its college-educated population since 2000 was 31.5%, nearly double the US rate. The improvements have been less pronounced in Gratiot, Isabella, and Midland counties, although Midland County's educational attainment levels are already higher than the US, so there is less room for improvement.



Source: US Census Bureau

## UNEMPLOYMENT RATES

CURRENT UNEMPLOYMENT RATE (JULY 2014) SET AGAINST HISTORICAL RANGE, 2000-2014

The July 2014 unemployment rate of 8.4% in East Central Michigan remains significantly higher than the US (6.5%), but slightly lower than Michigan (8.6%). The region's northern counties (Arenac, Gladwin, and Clare) each have an unemployment rate of more than 10%. These three counties have historically suffered from higher rates of unemployment than the rest of the region. In fact, Arenac County's unemployment rate nearly reached 20% at the peak of the Great Recession. On the other hand, both Isabella County and Midland County have much lower unemployment rates (7.1% and 7%, respectively), and their historical range is significantly lower than the rest of the region. These two counties have experienced less volatility in their unemployment rate thanks to the benefits provided by each county's large, relatively stable employers (CMU in Isabella County and Dow Chemical and Dow Corning in Midland County).



Source: US Bureau of Labor Statistics



# **STATISTICAL BENCHMARKING**





TIP worked with the Strategic Management Team to identify benchmark regions that could be used in a comparison of East Central Michigan's economy with peer regions. The four key similarities among these regions are:

1. Location in Midwestern US
2. Roughly comparable size of population
3. Strong manufacturing sector (LQ of 1.0 or higher)
4. An urban core with surrounding rural counties

Within the state of Michigan, five other Prosperity Regions with comparable population sizes and similar economic make-ups were selected. The Detroit metro area region (PR-10) and the regions in northern Michigan (PR-1, PR-2, and PR-3) were excluded from the statistical benchmarking because their population size and economies are not similar to East Central Michigan.

Outside of Michigan, four consolidated statistical areas (CSAs) were selected. For the out-of-state regions, the CSAs were used instead of metropolitan statistical areas (MSAs) because they include more surrounding rural counties that are loosely tied to the urban core. This approach allowed for more of an "apples-to-apples" comparison between the Prosperity Regions and the out-of-state regions.

#### BENCHMARK REGIONS & COMPONENTS

Region	Counties
<b>East Central MI (PR-5)</b>	<b>Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Saginaw</b>
West MI (PR-4b)	Allegan, Barry, Ionia, Kent, Montcalm, Muskegon, Ottawa
East MI (PR-6)	Genesee, Huron, Lapeer, St. Clair, Sanilac, Shiawassee, Tuscola
South Central MI (PR-7)	Clinton, Eaton, Ingham
Southwest MI (PR-8)	Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, Van Buren
Southeast MI (PR-9)	Hillsdale, Jackson, Lenawee, Livingston, Monroe, Washtenaw
Quad Cities, IA-IL	IA: Clinton, Muscatine, Scott IL: Henry, Mercer, Rock Island
Fort Wayne, IN	Adams, Allen, DeKalb, Huntington, Noble, Steuben, Wells, Whitley
Rockford, IL	Boone, Ogle, Stephenson, Winnebago
Toledo, OH	Fulton, Lucas, Ottawa, Wood

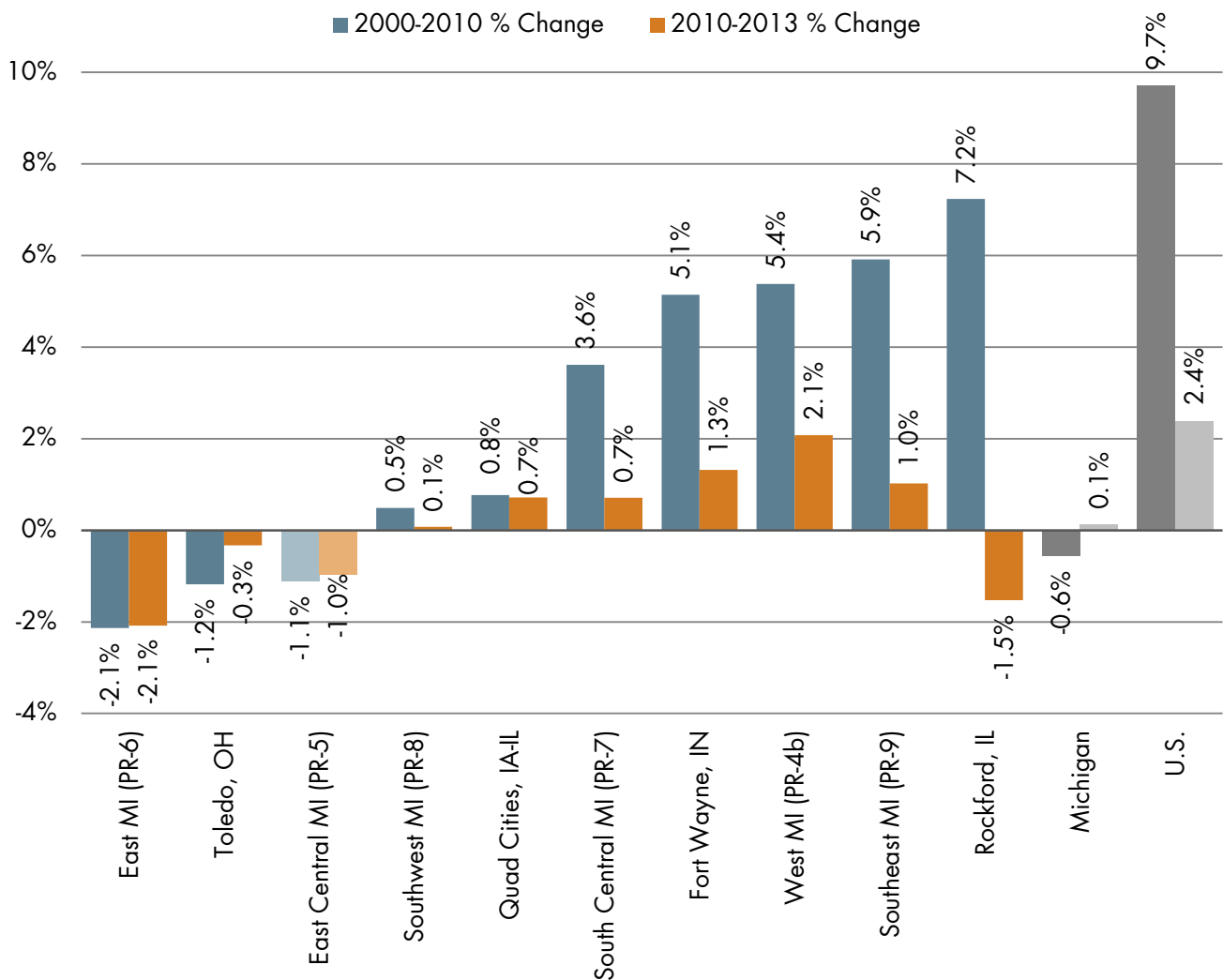
	East Central MI (PR-5)	West MI (PR-4b)	East MI (PR-6)	South Central MI (PR-7)	Southwest MI (PR-8)	Southeast MI (PR-9)	Fort Wayne, IN	Quad Cities, IA-IL	Rockford, IL	Toledo, OH
Population (2013)	571,246	1,364,215	861,444	467,321	778,967	994,717	619,762	474,937	443,748	649,298
Population Growth (2000-2013)	-2.1%	7.6%	-4.2%	4.3%	0.6%	7.0%	6.5%	1.5%	5.6%	-1.5%
Unemployment Rate (July 2014)	8.4%	6.8%	9.3%	7.6%	7.5%	7.4%	5.9%	6.2%	9.1%	6.3%
Labor Force Growth (2000-2013)	-6.3%	-2.1%	-12.8%	-5.3%	-9.6%	-5.4%	-4.2%	0.1%	-4.9%	-5.4%
Per Capita Income (2012)	\$19,125	\$20,493	\$20,438	\$21,653	\$19,859	\$24,201	\$20,475	\$20,030	\$20,988	\$20,652
Business Establishment Growth (2001-2013)	-12.1%	-6.3%	-17.8%	-13.0%	-8.7%	-5.9%	4.8%	4.0%	9.0%	-6.0%
Percent With Bachelor's Degree (2012)	19.9%	25.4%	16.8%	31.7%	23.6%	31.5%	21.8%	23.4%	20.3%	23.5%
Percent in 25-44 Age Group (2014)	1.11	0.98	1.02	1.05	1.00	0.92	1.13	0.98	1.29	0.96

Sources: US Census Bureau, US Bureau of Labor Statistics

## POPULATION GROWTH (PRE-RECESSION & POST-RECESSION)

PERCENT CHANGE IN POPULATION (2000-2010; 2010-2013)

East Central Michigan's total population has not grown in recent years. The region's population declined by 1.1% from 2000 to 2010, and by another 1% from 2010 to 2013. Compared to the nine other benchmark regions, East Central Michigan only fared better than East Michigan from 2000 to 2010 and better than East Michigan and Rockford, IL from 2010 to 2013. The lack of population growth is one of the biggest challenges facing East Central Michigan. None of the benchmark regions have grown as quickly as the US as a whole. However, recent population growth in South Central Michigan, West Michigan, and Southeast Michigan bodes well for the state of Michigan.

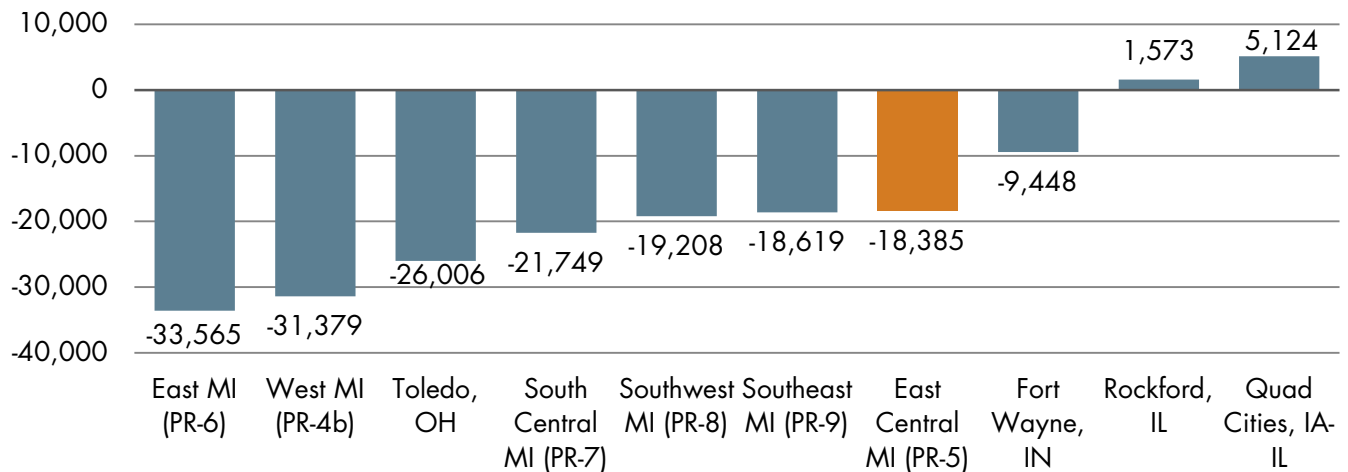


Source: US Census Bureau

## NET MIGRATION

CUMULATIVE NET MIGRATION, 2004-2011

East Central Michigan lost over 18,000 residents from 2004-2011 due to migration. This averages out to a net loss of just over 2,600 residents on an annual basis. Only two benchmark regions—Rockford, IL and the Quad Cities, IA-IL gained residents due to migration from 2004 to 2011.

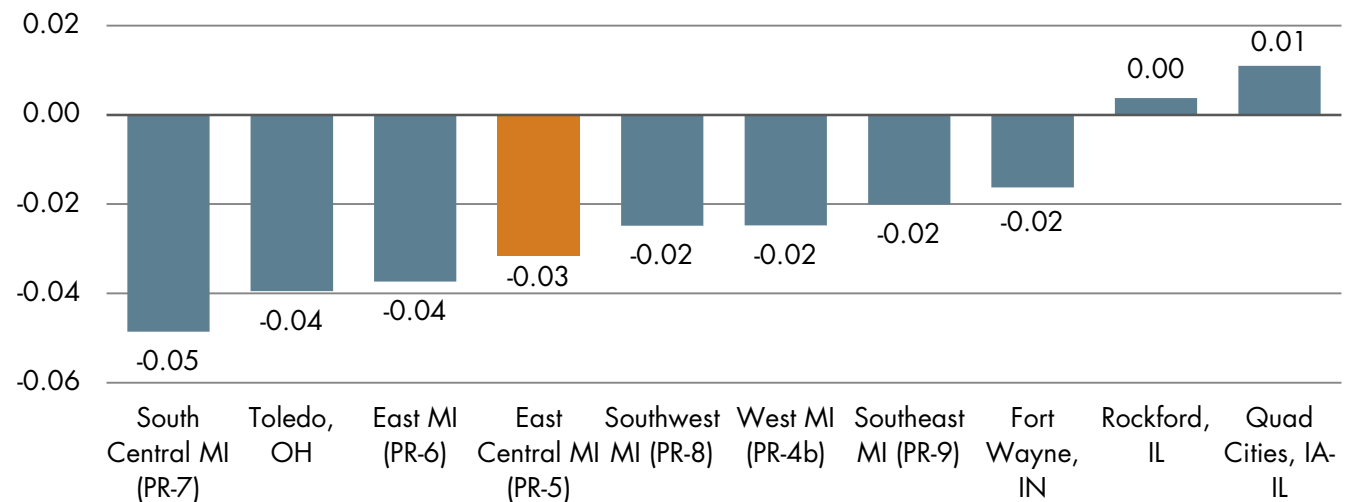


Source: US Internal Revenue Service

## NET MIGRATION PER CAPITA

CUMULATIVE NET MIGRATION PER CAPITA, 2004-2011

On a per capita basis, East Central Michigan lost more residents from 2004 to 2011 due to migration than each of the benchmark regions except for South Central Michigan, Toledo, OH, and East Michigan.

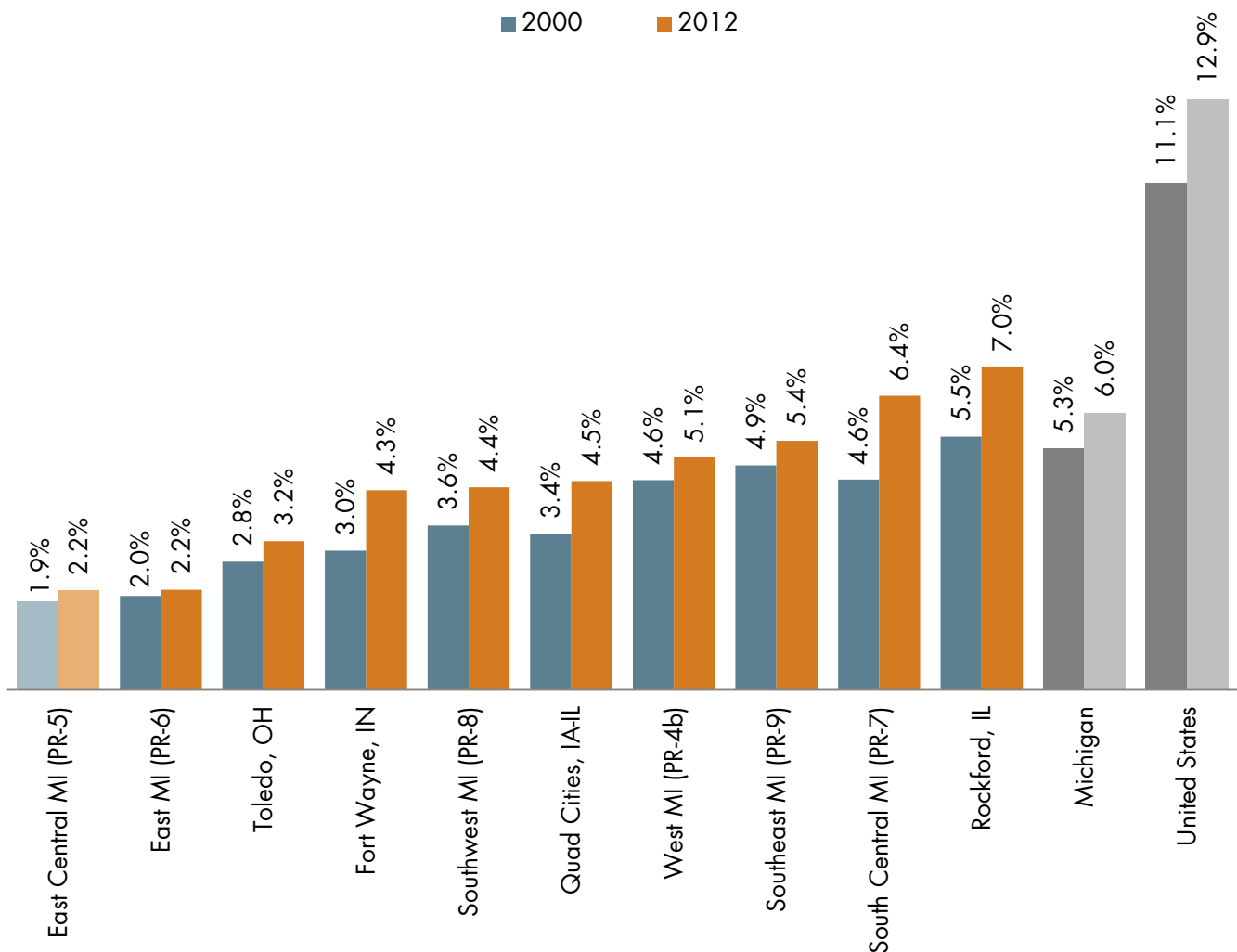


Source: US Internal Revenue Service

## FOREIGN-BORN RESIDENTS

FOREIGN-BORN RESIDENTS AS A PERCENTAGE OF TOTAL POPULATION, 2000 & 2012\*

One of the factors that mitigates out-migration from East Central Michigan is the growing number of foreign-born residents. In 2000, 1.9% of the region's population was born outside the US. This percentage increased to 2.2% of the region's population in 2012. The percentage of foreign-born residents has increased in each of the benchmark regions from 2000 to 2012. However, East Central Michigan has the lowest percentage of foreign-born residents. This represents a potentially untapped opportunity to attract a higher number of international migrants, especially given the region's higher education institutions and global corporations.



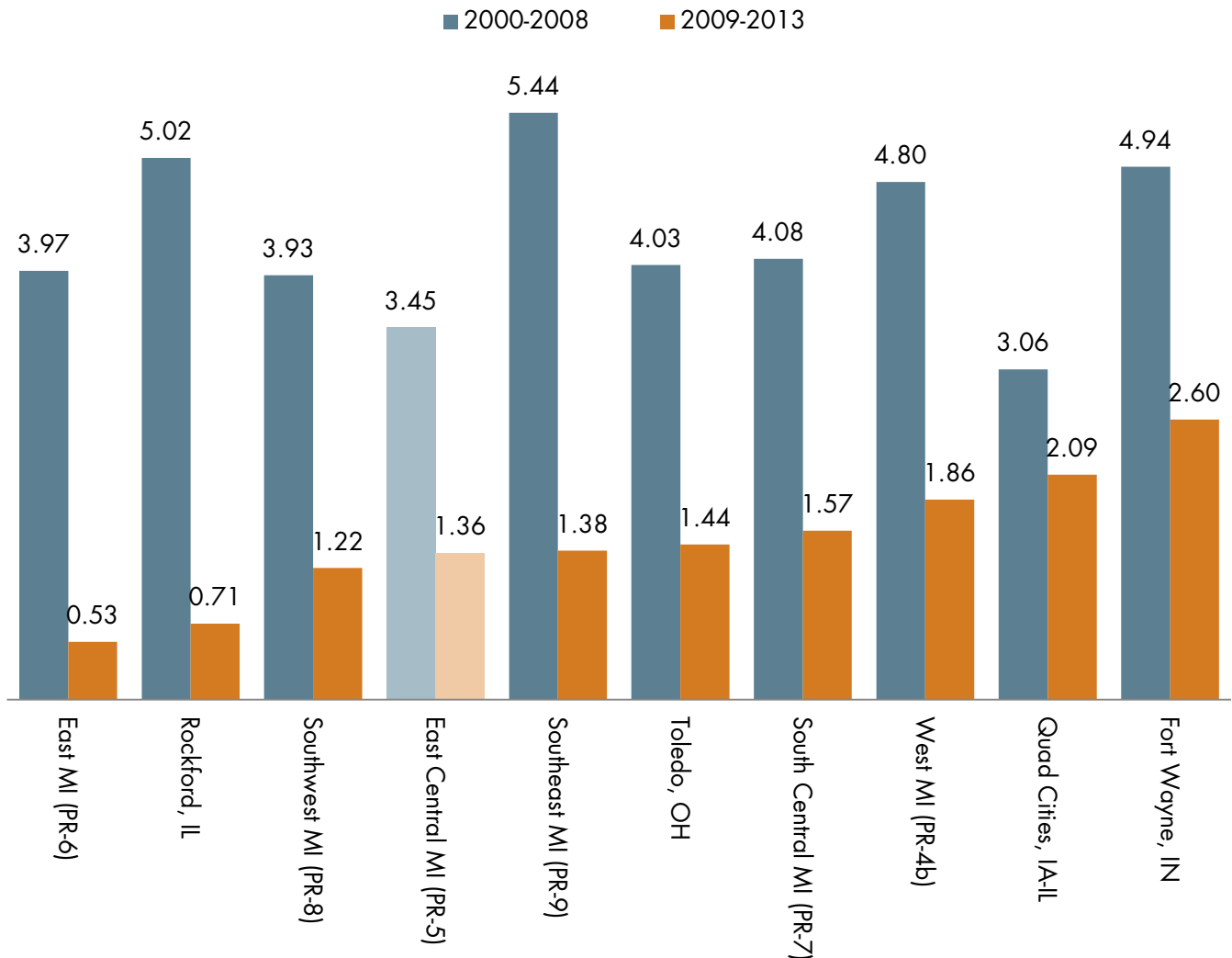
Source: US Census Bureau

\*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## HOUSING PERMITS (PRE-RECESSION & POST-RECESSION)

ANNUAL HOUSING PERMITS PER 1,000 RESIDENTS, 2000-2008 & 2009-2013

The number of new housing units permitted in the years leading up to the Great Recession (2000-2008) was much higher than in the years since the economic downturn (2009-2013). However, the decline in housing permit activity in East Central Michigan was less severe than it was in many of the benchmark regions, East Michigan and Rockford, IL in particular.

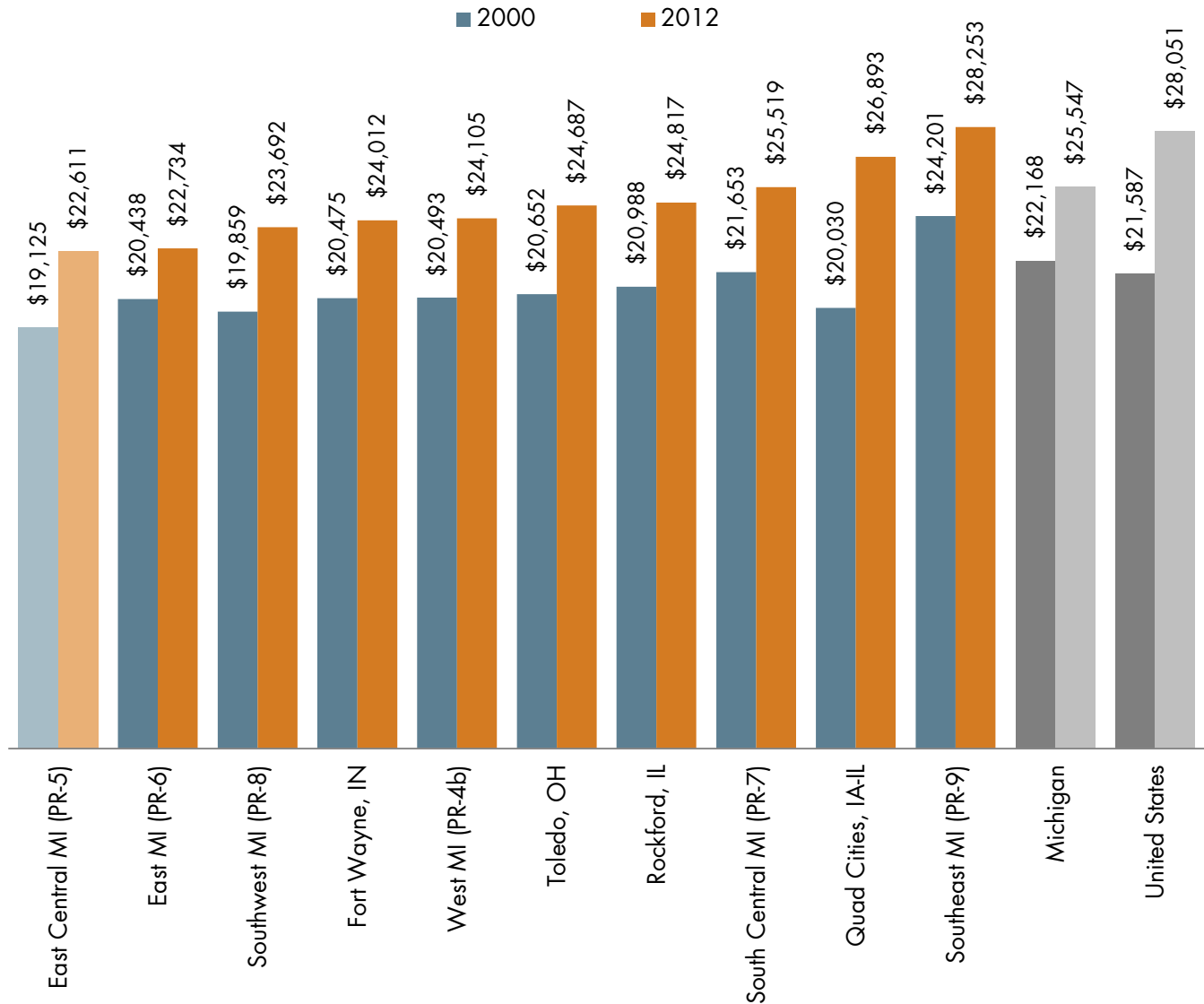


Source: US Department of Housing & Urban Development, Building Permits Database

## PER CAPITA INCOME

PER CAPITA INCOME, 2000 & 2012\*

East Central Michigan's per capita income of \$22,611 is the lowest among the benchmark regions and is substantially lower than Michigan (\$25,547) and the US (\$28,051). The region's per capita income levels grew by 18.2% from 2000 to 2012, which is better than Michigan's growth rate of 15.2%, but much lower than the US growth rate of 29.9%.



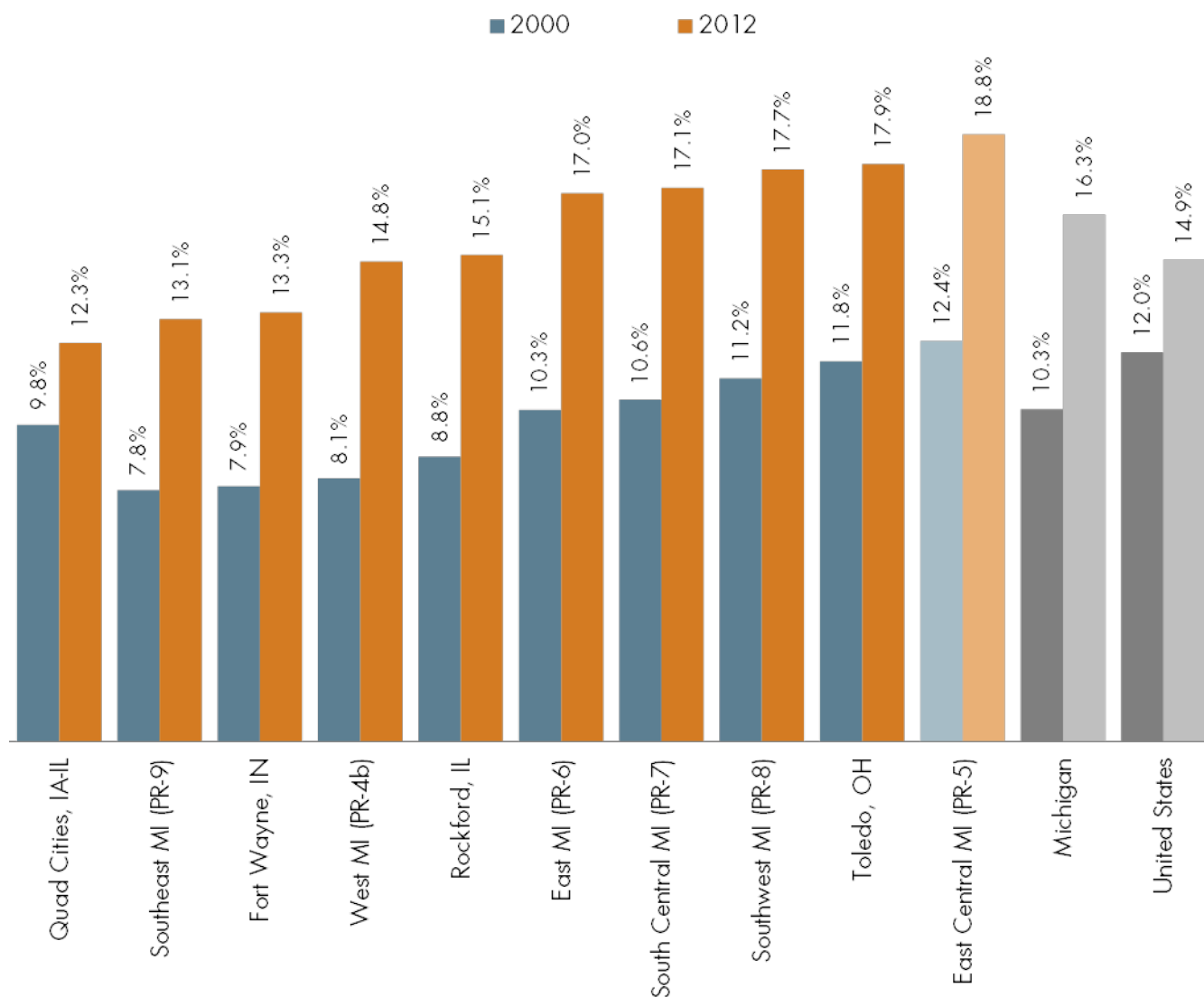
Source: US Census Bureau

\*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## POVERTY RATE

PERCENTAGE OF POPULATION WHOSE INCOME IN PAST YEAR IS BELOW THE POVERTY LEVEL, 2000 & 2012\*

East Central Michigan's poverty rate of 18.8% is the highest among the benchmark regions, and much higher than Michigan (16.3%) and the US (14.9%). The growth in the region's poverty rate from 2000 to 2012 is a worrisome trend. During this period, the region's poverty rate rose by 51.5%, somewhat lower than Michigan's rise of 58.6%, but more than double the US increase of 23.7%.



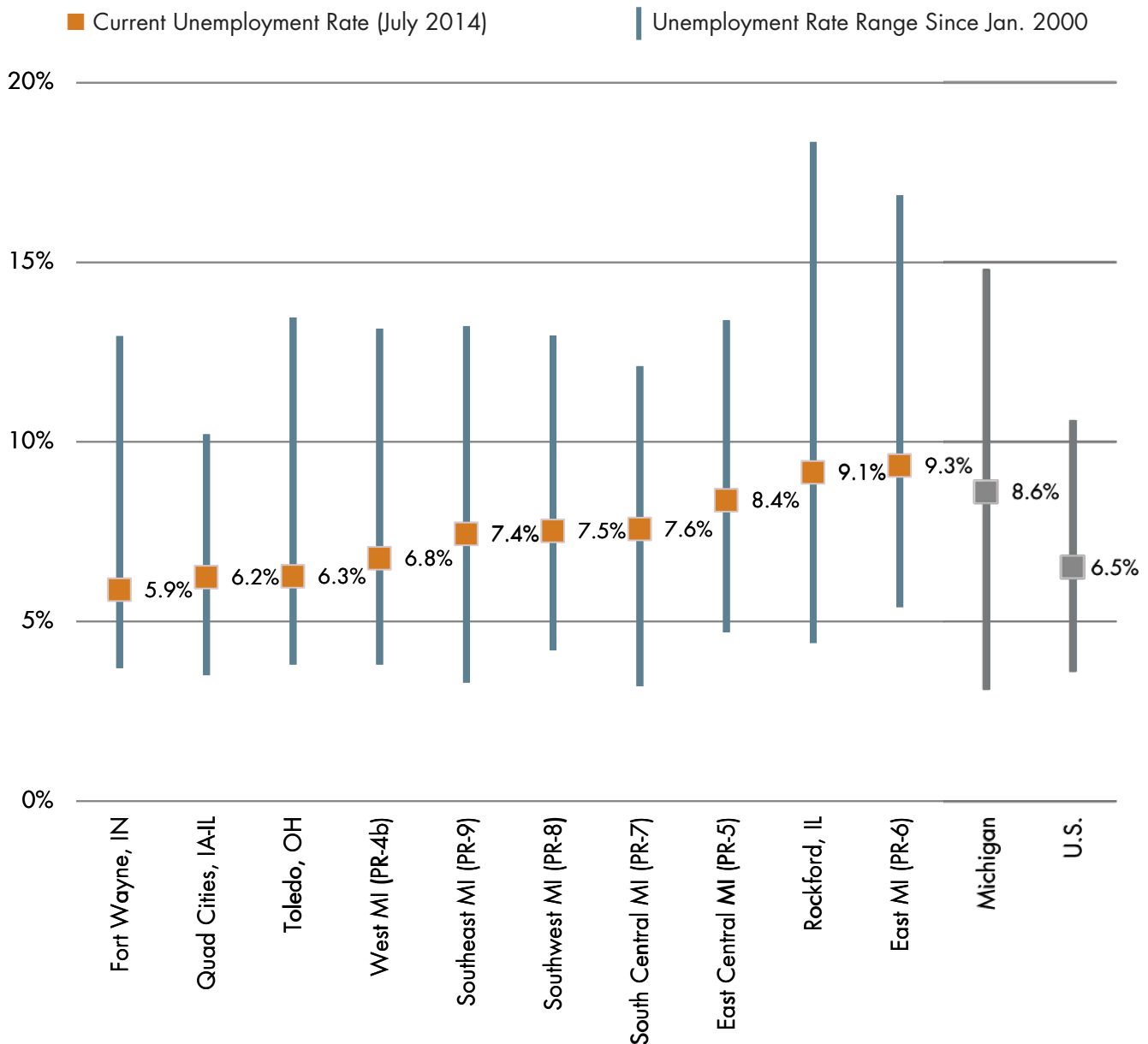
Source: US Census Bureau

\*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## UNEMPLOYMENT RATES

CURRENT UNEMPLOYMENT RATE (JULY 2014) SET AGAINST HISTORICAL RANGE, 2000-2014

East Central Michigan's latest (July 2014) unemployment rate of 8.4% is higher than each of the benchmark regions' rates, except for those of Rockford, IL (9.1%) and East Michigan (9.3%). It is slightly less than Michigan's rate (8.6%). The region's historical range of unemployment rates from 2000 to 2014 is roughly comparable to each of the benchmark regions except Quad Cities, IA-IL, which was not hit as hard by the Great Recession.



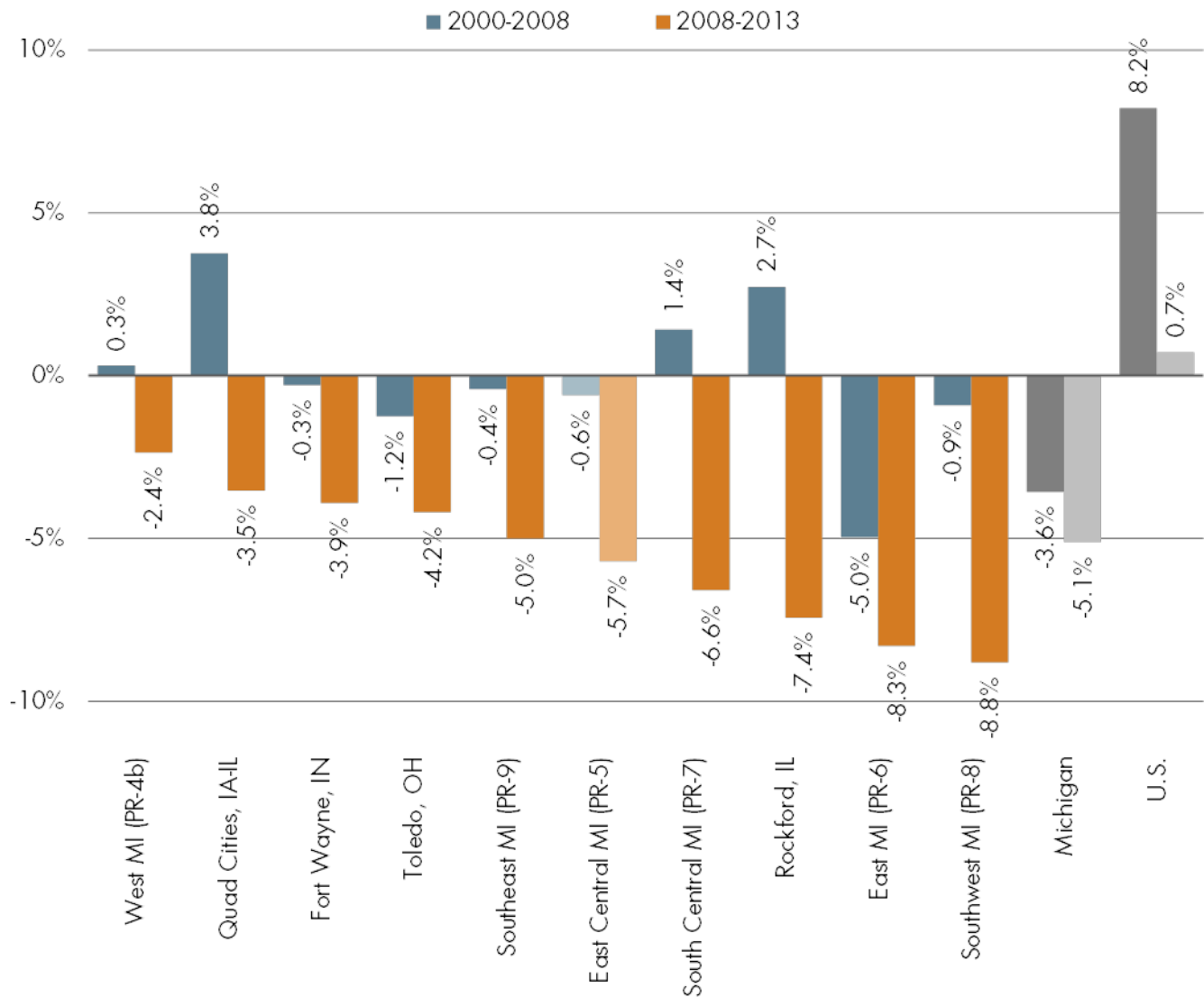
Source: US Bureau of Labor Statistics



## LABOR FORCE CHANGE (PRE-RECESSION & POST-RECESSION)

PERCENT CHANGE IN LABOR FORCE, 2000-2008 & 2008-2013

East Central Michigan's labor force declined by 0.6% from 2000 to 2008 and by 5.7% from 2008 to 2013. The ability to attract, retain, and develop a labor force is one of the region's most significant challenges. This challenge is not unique to East Central Michigan. The region's labor force decline is comparable to most of the benchmark regions, and the region fared much better than Michigan as a whole from 2000 to 2008 when the state lost 3.6% of its labor force.

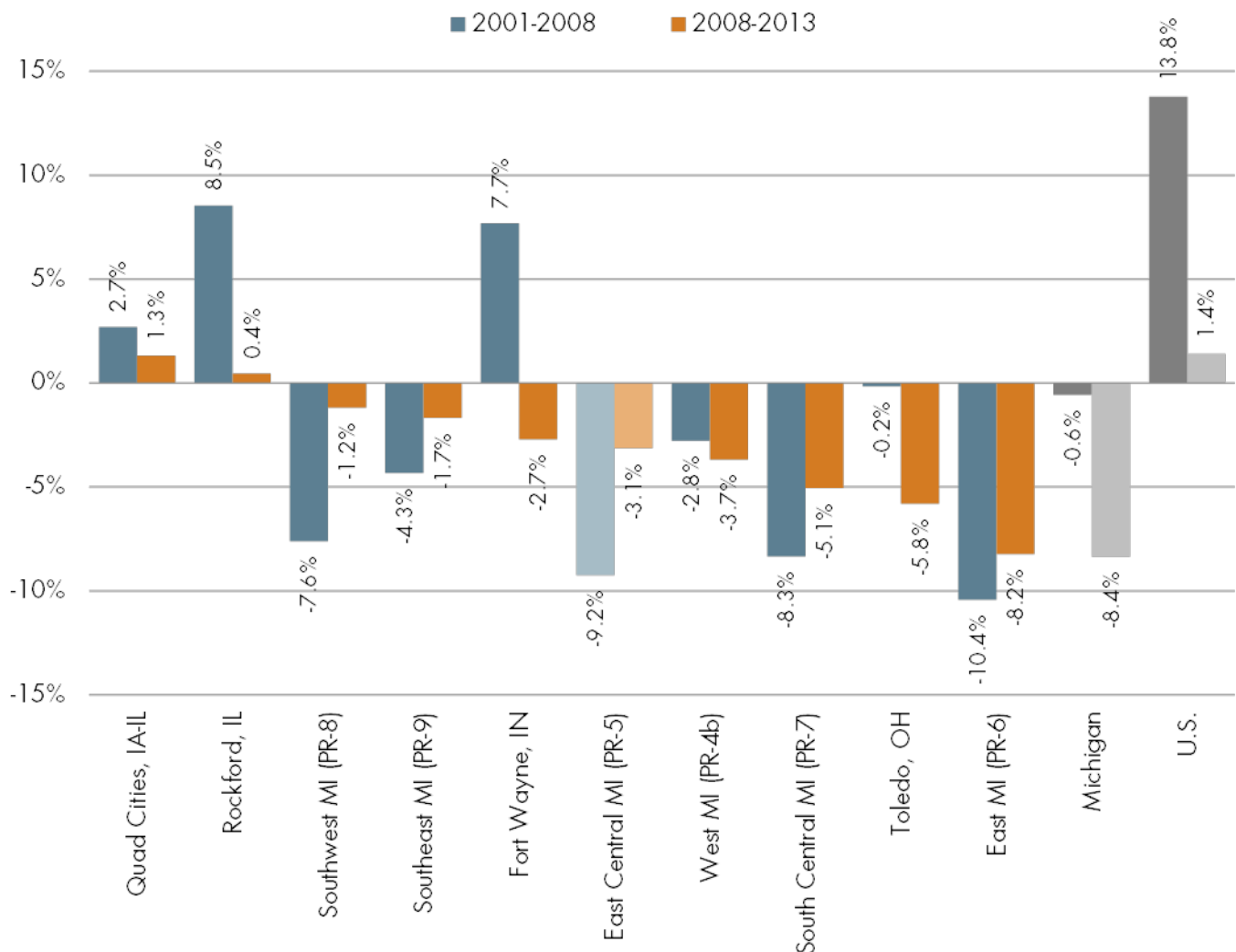


Source: US Bureau of Labor Statistics

## PRIVATE BUSINESS ESTABLISHMENT CHANGE (PRE-RECESSION & POST-RECESSION)

PERCENT CHANGE IN PRIVATE BUSINESS ESTABLISHMENTS, 2000-2008 & 2008-2013

The number of private business establishments in East Central Michigan declined by 9.2% from 2000 to 2008, a loss greater than each of the benchmark regions except for East Michigan (-10.4%). From 2008 to 2013, the region lost 3.1% of its private business establishments, which was comparable to many of the benchmark regions and far less severe than Michigan's decline of 8.4% during the same period. Nonetheless, the creation of new businesses in East Central Michigan remains a significant challenge, especially given the growth in business establishments that continues in the US economy as a whole.

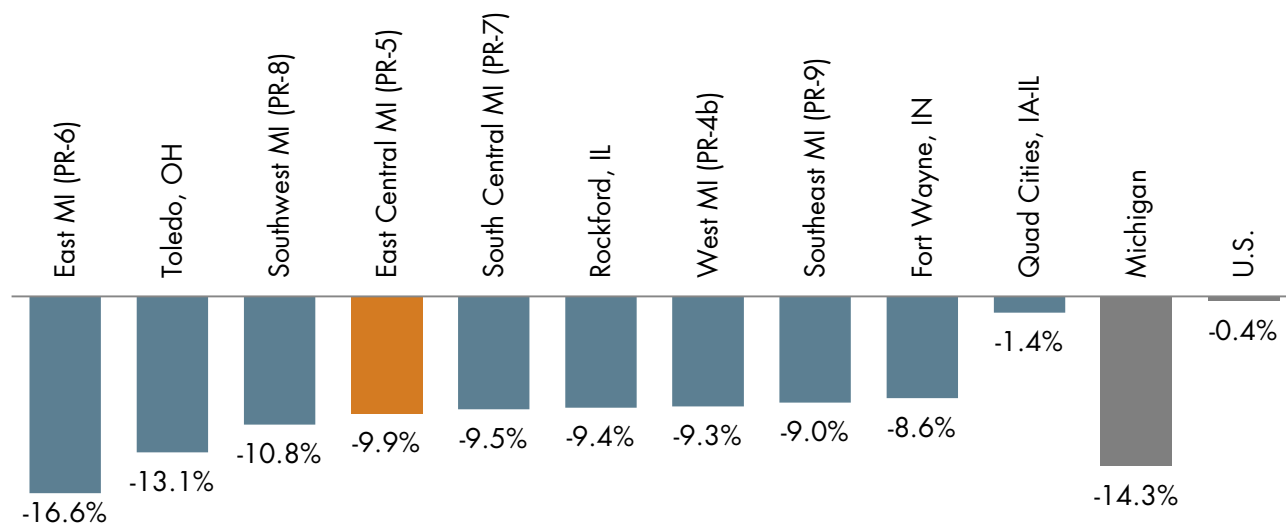


Source: US Bureau of Labor Statistics

## JOB LOSSES, 2001-2010 (PRE-RECESSION)

PERCENT CHANGE IN TOTAL EMPLOYMENT, 2001-2010

East Central Michigan, like most of the Midwest, was hit hard by the Great Recession. The region lost 9.9% of its total jobs from 2001 to 2010, less than Michigan's 14.3% decline, but worse than the 0.4% decline in the US.

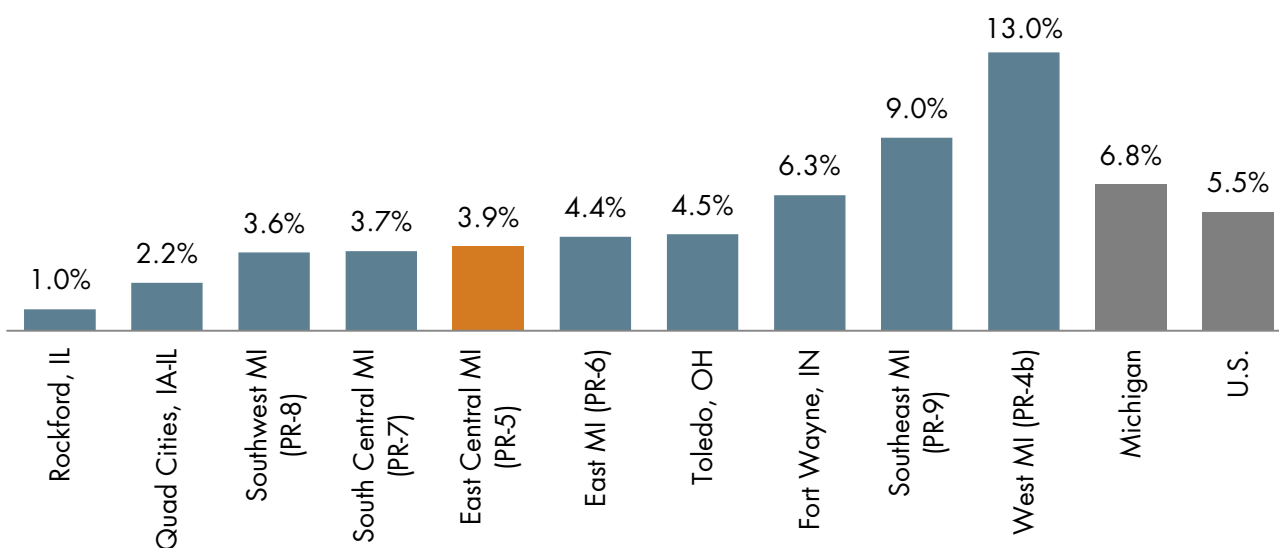


Source: EMSI Complete Employment 2014.2

## JOB GAINS, 2010-2014 (POST-RECESSION)

PERCENT CHANGE IN TOTAL EMPLOYMENT, 2010-2014

Since 2010, East Central Michigan has grown its employment by 3.9%. This is comparable to most of the benchmark regions but less than the growth rates in Michigan (6.8%) and the US (5.5%).



Source: EMSI Complete Employment 2014.2

## INDUSTRY STRENGTHS

### LOCATION QUOTIENTS OF MAJOR SECTORS, 2014

East Central Michigan enjoys industry strengths in manufacturing (LQ of 1.55), local government (1.45), and corporate & regional HQs (1.29). Compared to the benchmark regions, East Central Michigan also has a relatively high proportion of jobs in the following sectors: administrative services (1.12); health care (1.18); restaurants, bars, & hotels (1.09); agriculture (0.83); and state government (0.78). Relative to the benchmark regions, East Central Michigan has a low percentage of jobs in: professional services (0.52); wholesale trade (0.59); finance & insurance (0.68); and transportation & warehousing (0.57).

	West MI (PR-4b)	East Central MI	East MI (PR-6)	South Central MI	Southwest MI (PR-8)	Southeast MI (PR-9)	Quad Cities, IA-IL	Fort Wayne, IN	Rockford, IL	Toledo, OH	Michigan
Manufacturing	<b>2.44</b>	1.55	1.49	1.11	<b>2.18</b>	1.33	1.77	<b>2.61</b>	<b>2.47</b>	1.71	1.61
Utilities	0.69	1.15	1.90	0.19	<b>2.21</b>	<b>3.09</b>	1.79	0.77	<b>2.17</b>	1.19	1.21
Administrative services	1.43	1.12	1.03	0.82	0.99	0.87	0.97	0.90	1.12	1.02	1.13
Professional services	0.61	0.52	0.52	0.66	0.59	0.98	0.54	0.43	0.40	0.68	1.08
Healthcare	0.98	1.18	1.18	0.93	1.01	1.15	0.93	1.04	1.15	1.25	1.06
Retail trade	0.93	1.18	1.32	0.89	0.98	0.95	1.06	0.94	0.97	1.04	1.02
Personal & other services	0.98	1.11	1.02	1.05	1.00	0.92	0.98	1.13	1.29	0.96	1.00
Restaurants, bars, & hotels	0.90	1.09	1.05	0.94	1.04	0.88	0.92	0.88	0.85	1.10	0.97
Wholesale trade	1.11	0.59	0.90	0.59	0.81	0.63	1.09	1.05	0.92	0.84	0.97
Corporate & regional HQs	0.57	1.29	0.09	0.93	0.35	0.40	1.77	0.59	0.10	0.99	0.97
Education	0.86	0.96	1.01	1.63	1.01	<b>2.07</b>	1.11	0.80	0.83	0.99	0.96
Local government	0.66	1.45	1.08	0.96	1.25	0.74	0.94	0.82	1.00	1.07	0.93
Finance & insurance	0.79	0.68	0.78	1.21	0.78	0.62	0.82	0.89	0.87	0.59	0.85
Property sales & leasing	0.63	0.65	0.62	0.93	0.69	0.82	0.48	0.63	0.50	0.71	0.84
Transportation & warehousing	0.70	0.57	0.77	1.10	0.71	0.59	1.01	1.25	1.10	1.22	0.81
Agriculture	1.70	0.83	1.08	0.62	<b>2.12</b>	0.50	0.75	0.54	0.78	0.48	0.79
Construction	0.87	0.86	0.88	0.64	0.74	0.67	0.90	0.93	0.76	0.78	0.78
Information & media	0.52	0.62	1.05	0.76	0.42	0.67	0.63	0.75	0.44	0.57	0.72
Arts & entertainment	0.79	0.71	0.68	0.74	0.53	0.70	0.85	0.73	0.85	0.57	0.72
State government	0.40	0.78	0.46	<b>4.60</b>	0.40	0.72	0.43	0.32	0.03	0.56	0.66
Federal government (civilian)	0.33	0.51	0.46	0.44	0.77	0.60	1.37	0.40	0.35	0.41	0.63
Federal government (military)	0.28	0.34	0.43	0.38	0.34	0.32	0.49	0.46	0.33	0.41	0.33
Oil, gas, & mining	0.06	0.45	0.17	0.26	0.13	0.12	0.19	0.11	0.03	0.10	0.27

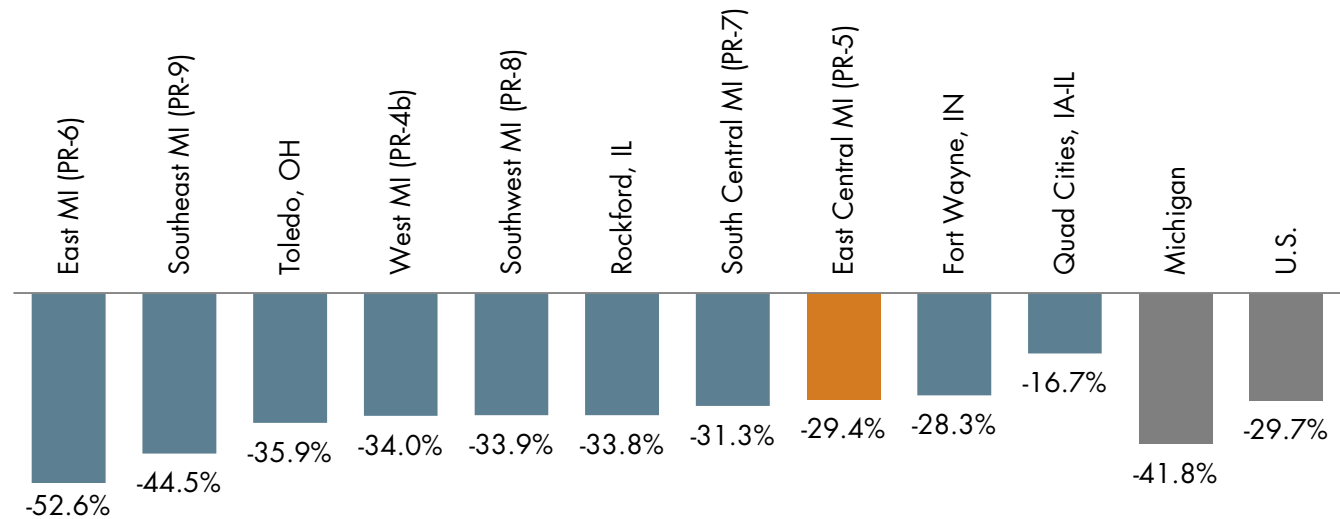
Location quotient descriptions: **extremely high (> 2.00)** **above average (>1.25)** **average (between 0.75 and 1.25)** **below average (<0.75)**

Source: EMSI Complete Employment 2014.2

## MANUFACTURING JOB LOSSES, 2001-2010 (PRE-RECESSION)

PERCENT CHANGE IN MANUFACTURING EMPLOYMENT, 2001-2010

East Central Michigan lost 29.4% of its manufacturing jobs from 2001 to 2010, nearly the same decline as the US (29.7%), but not as severe as Michigan's decline (41.8%) and less severe than most of the benchmark regions.

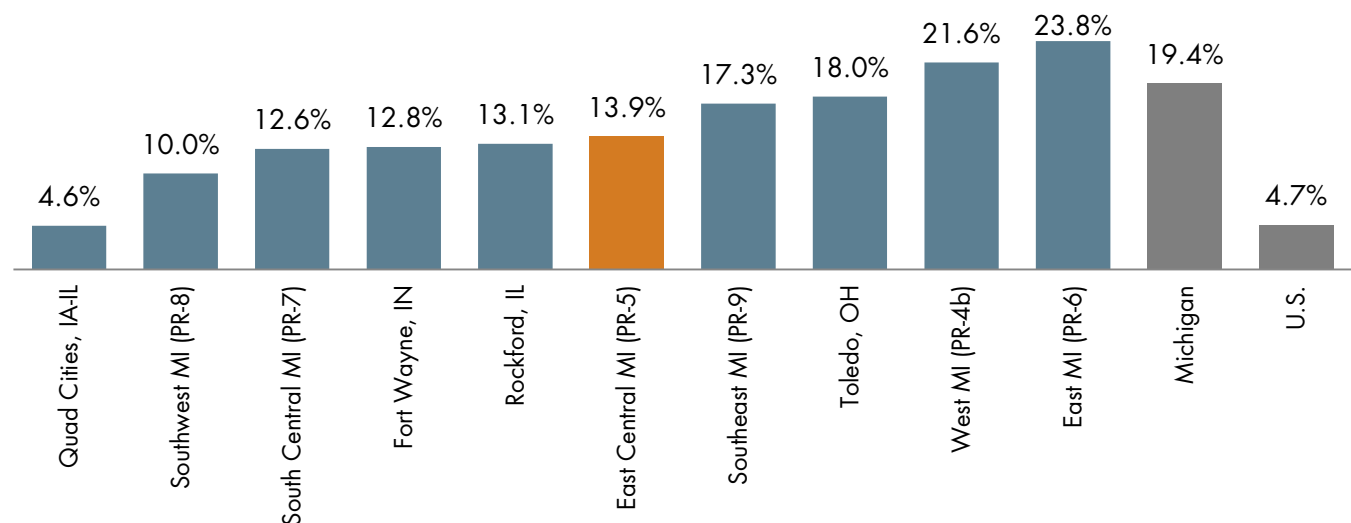


Source: EMSI Complete Employment 2014.2

## MANUFACTURING JOB GAINS, 2010-2014 (POST-RECESSION)

PERCENT CHANGE IN MANUFACTURING EMPLOYMENT, 2010-2014

East Central Michigan's manufacturing sector has bounced back strongly from the Great Recession, with a 13.9% job growth rate from 2010 to 2014, about three times higher than the US growth rate of 4.7%.

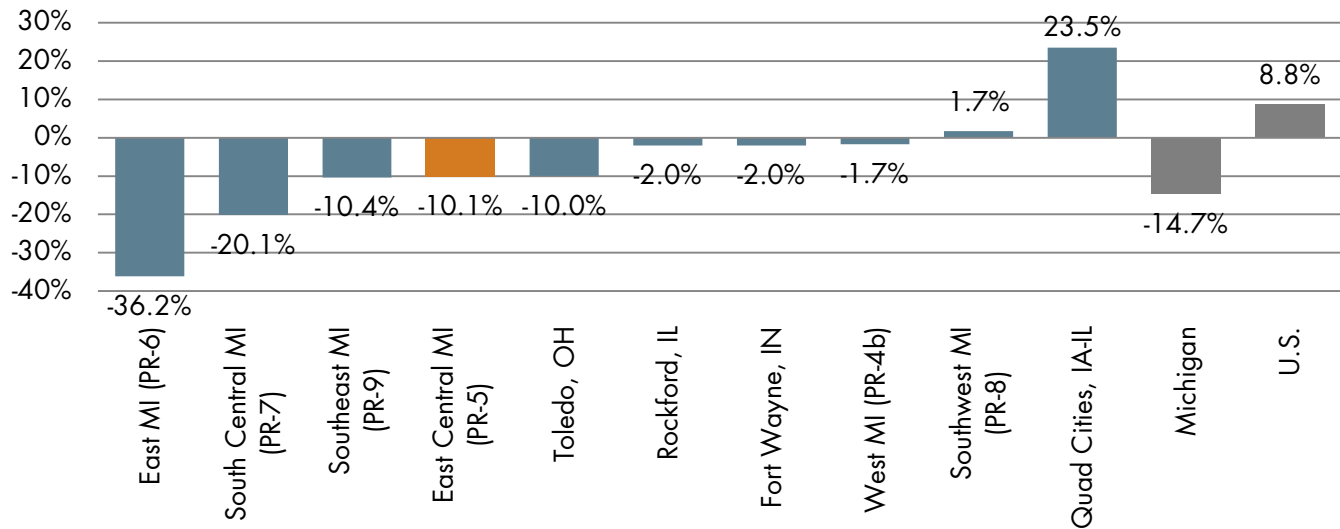


Source: EMSI Complete Employment 2014.2

## PROF. SERVICES JOB CHANGE, 2001-2010 (PRE-RECESSION)

PERCENT CHANGE IN PROFESSIONAL SERVICES EMPLOYMENT, 2001-2010

Total employment in East Central Michigan's professional services industry declined by 10.1% from 2001 to 2010. During the same period, the professional services sector grew by 8.8% in the US.

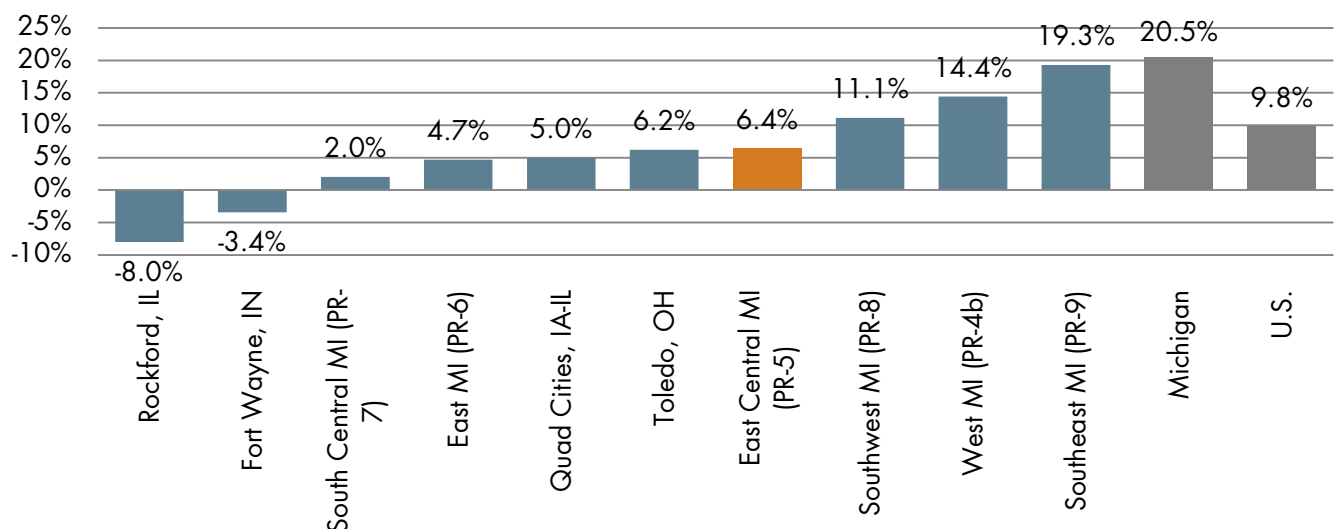


Source: EMSI Complete Employment 2014.2

## PROF. SERVICES JOB CHANGE, 2010-2014 (POST-RECESSION)

PERCENT CHANGE IN PROFESSIONAL SERVICES EMPLOYMENT, 2010-2014

From 2010 to 2014, employment in the professional services sector has grown by 6.4% in East Central Michigan, a higher rate than most of the benchmarks but significantly lower than Michigan's growth rate of 20.5%.

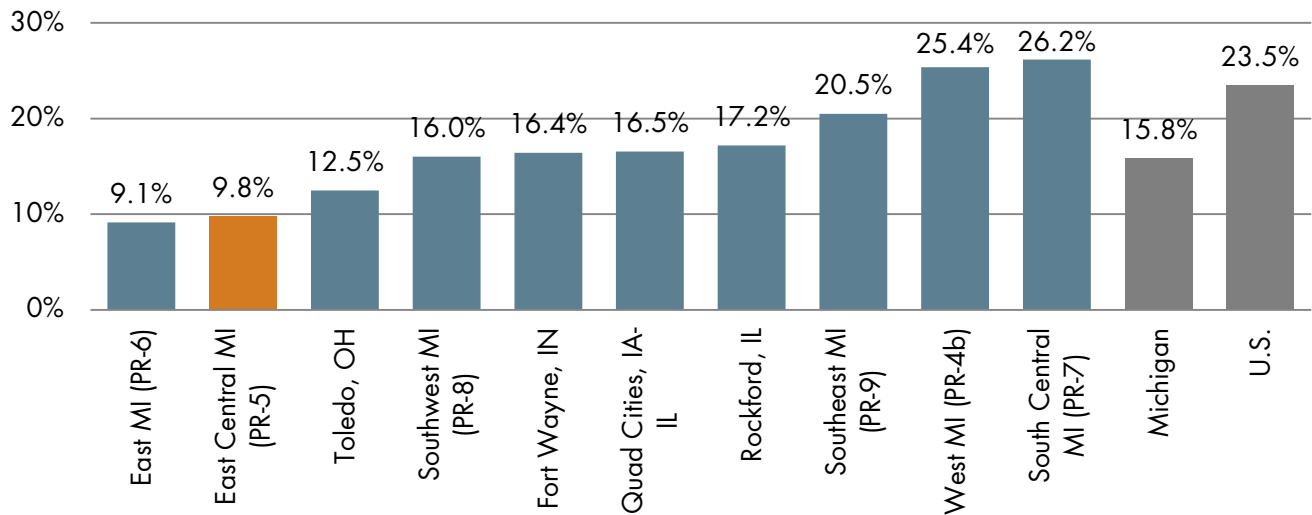


Source: EMSI Complete Employment 2014.2

## HEALTH CARE JOB CHANGE, 2001-2010 (PRE-RECESSION)

PERCENT CHANGE IN HEALTH CARE EMPLOYMENT, 2001-2010

East Central Michigan's health care sector grew by 9.8% from 2001 to 2010. However, the gain was less than all benchmarks except for East Michigan (9.1%) and much less than Michigan (15.8%) and the US (23.5%).

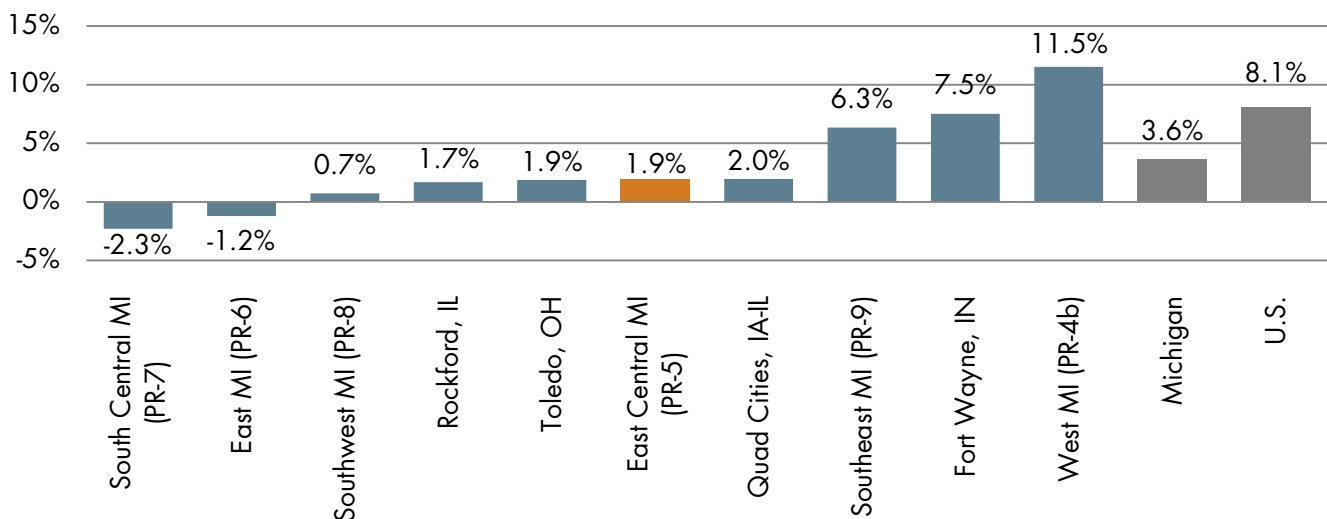


Source: EMSI Complete Employment 2014.2

## HEALTH CARE JOB CHANGE, 2010-2014 (POST-RECESSION)

PERCENT CHANGE IN HEALTH CARE EMPLOYMENT, 2010-2014

From 2010 to 2014, employment in East Central Michigan's health care industry grew by 1.9%, a rate better than five of the benchmark regions but significantly less than Michigan (3.6%) and the US (8.1%).

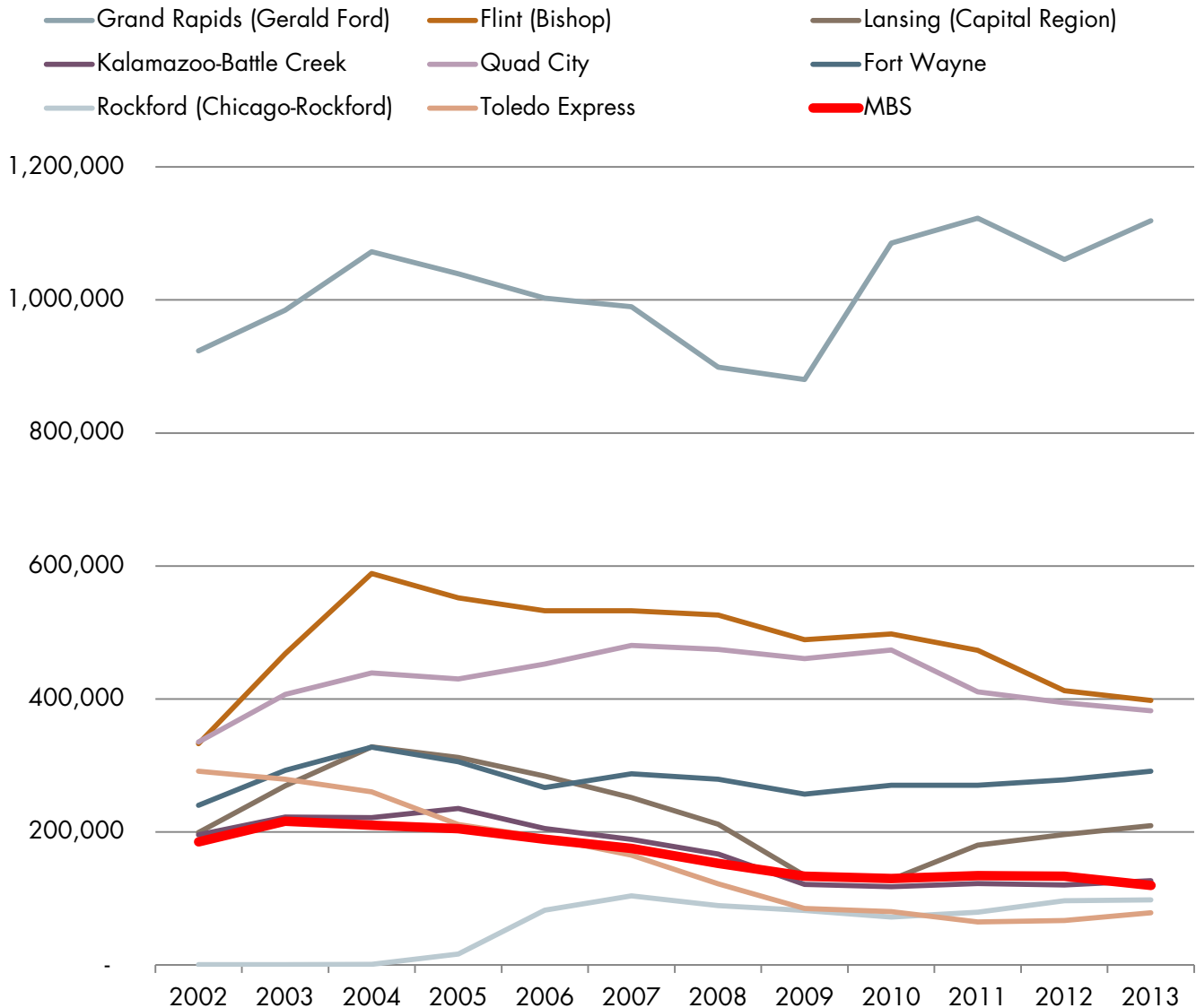


Source: EMSI Complete Employment 2014.2

## ANNUAL AIR TRAVEL PASSENGERS

ANNUAL AIR TRAVEL PASSENGERS AT COMMERCIAL AIRPORTS, 2002-2013

The number of annual air travel passengers at MBS International Airport has declined from 185,052 in 2002 to 119,749 in 2013, a drop of 35.3%. Compared to the primary commercial airports in each benchmark region, the decline in passengers at MBS from 2002 to 2013 has been more than every airport except for Toledo Express, which experienced a 73% drop in its annual passengers during the same period.



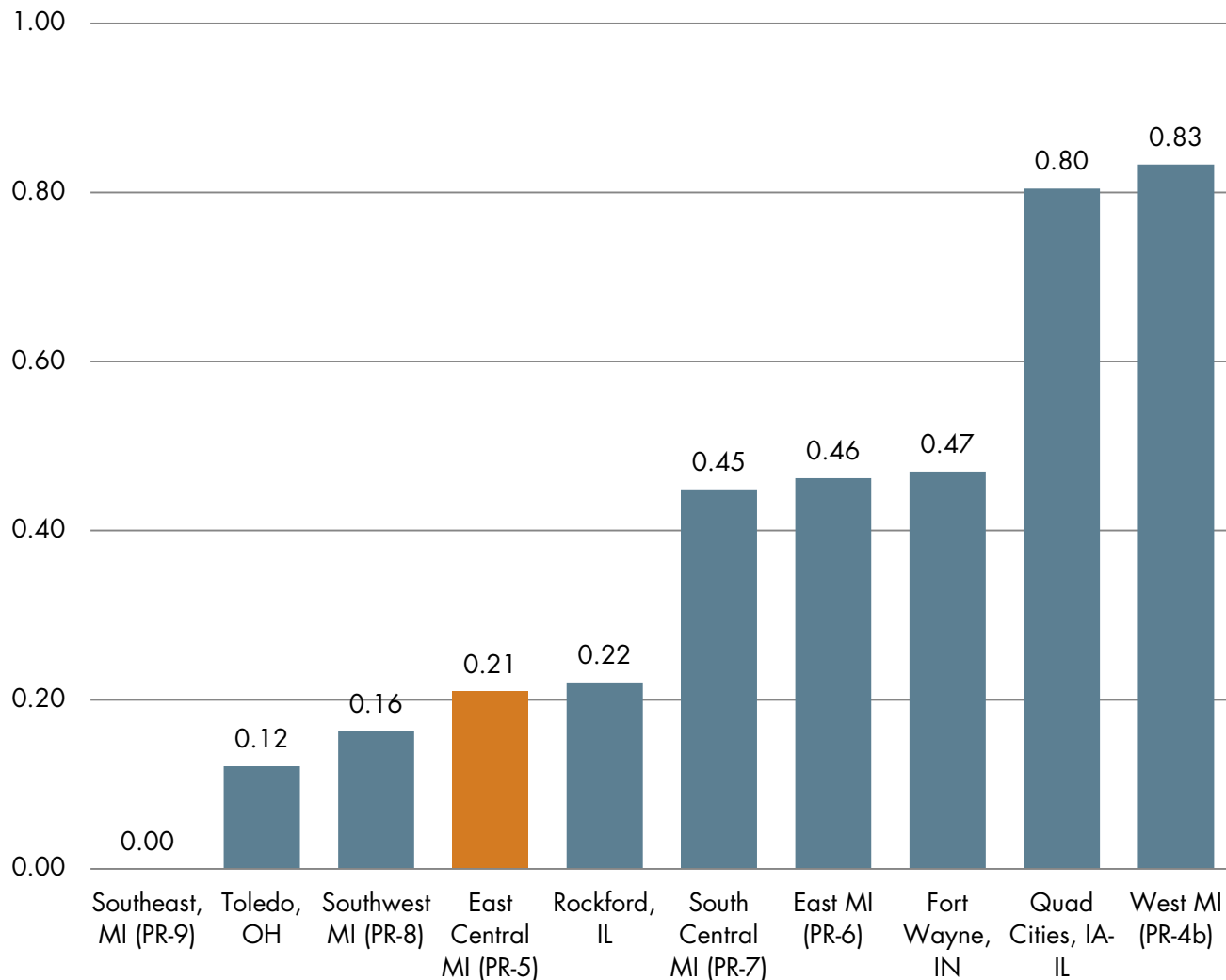
Source: US Department of Transportation, Bureau of Transportation Statistics



## AIR TRAVEL PASSENGERS PER CAPITA

AIR TRAVEL PASSENGERS PER CAPITA, 2013

On a per capita basis, East Central Michigan has fewer air travel passengers than each of the benchmark regions except for Southwest Michigan, Toledo, OH, and Southeast Michigan. It is worth noting that although Southeast Michigan does not have any commercial airports, it is in close proximity to Detroit-Wayne County International Airport.

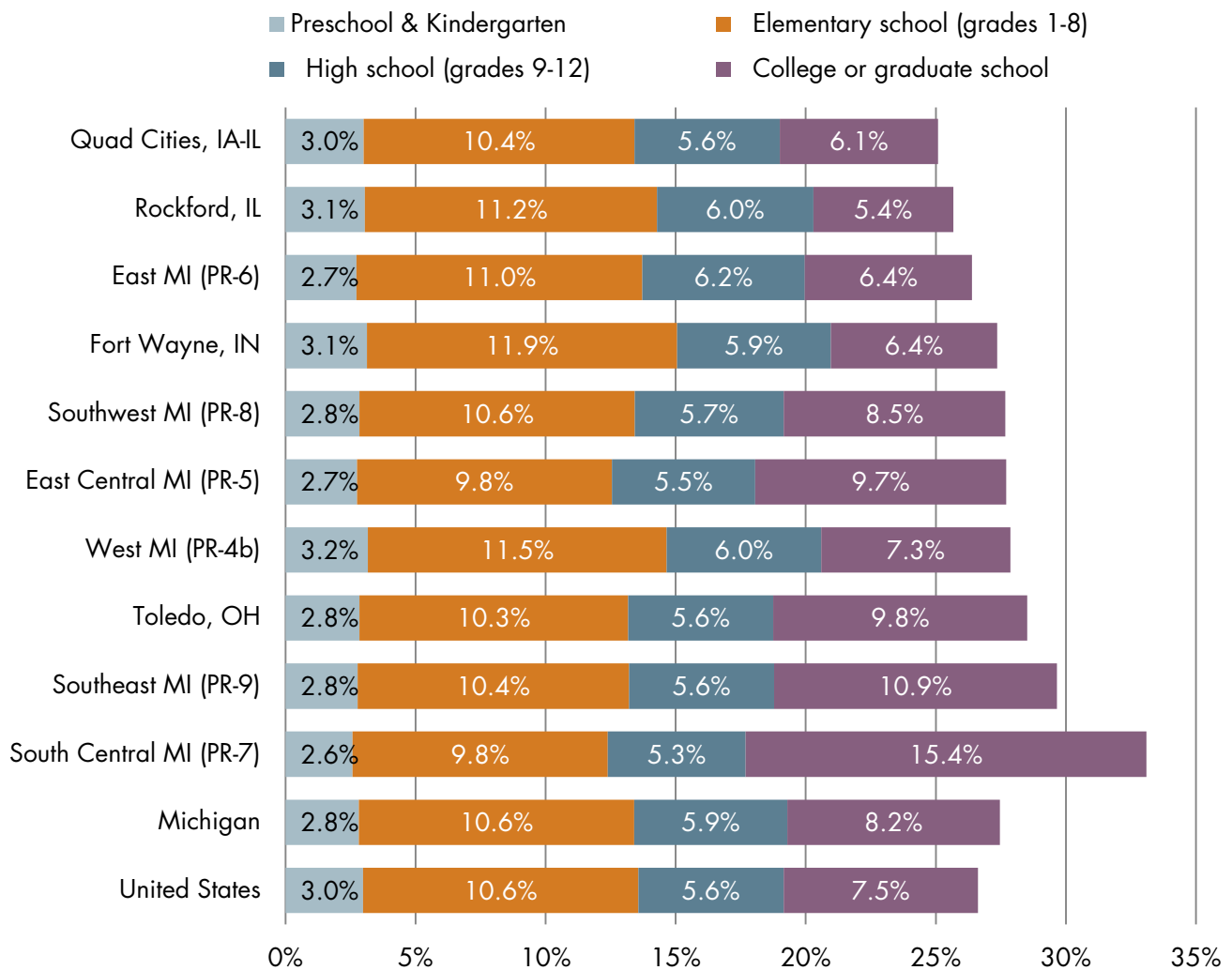


Source: US Department of Transportation, Bureau of Transportation Statistics

## CURRENT SCHOOL ENROLLMENT

CURRENT ENROLLMENT STATUS OF POPULATION AGE 3 AND OLDER, 2012\*

Compared to the benchmark regions, East Central Michigan has a relatively low percentage of K-12 students and a high percentage of college and graduate students. East Central Michigan has a lower percentage of preschool & kindergarten students (2.7%) than each of the benchmark regions except for South Central Michigan (2.6%). The region has the lowest percentage of elementary school students (9.8%) among the benchmarks. East Central Michigan has a lower percentage of high school students (5.5%) than each of the benchmarks except for South Central Michigan (5.3%).



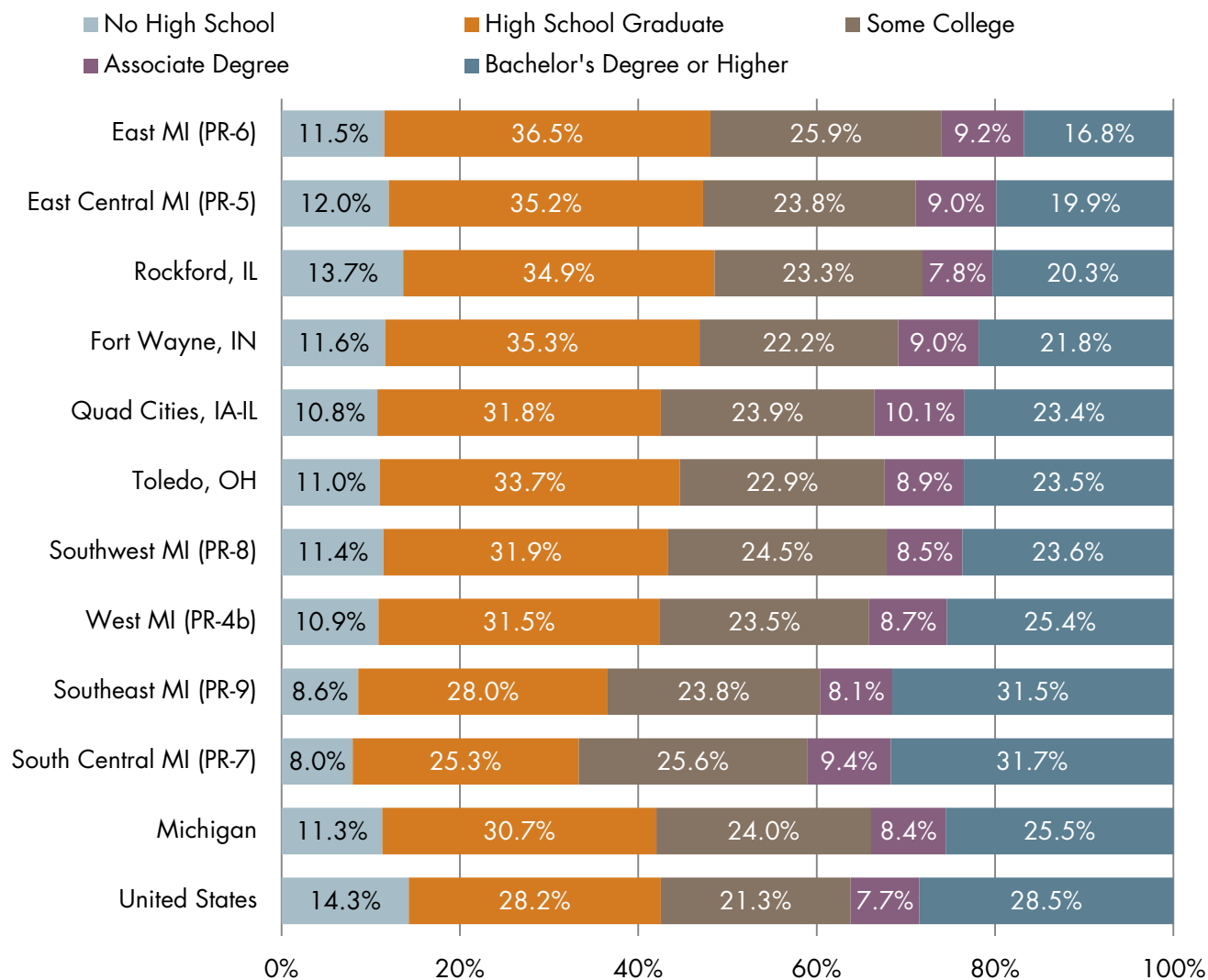
Source: US Census Bureau

\*Data are 5-year averages for 2008-2012 from the American Community Survey

## EDUCATIONAL ATTAINMENT

HIGHEST LEVEL OF EDUCATION ACHIEVED BY POPULATION AGE 25 AND OLDER, 2012\*

Educational attainment levels in East Central Michigan are generally lower than most of the benchmark regions. Only Rockford, IL has a higher percentage of adult residents without a high school education. And only East Michigan has a lower percentage of residents with a bachelor's degree or higher.



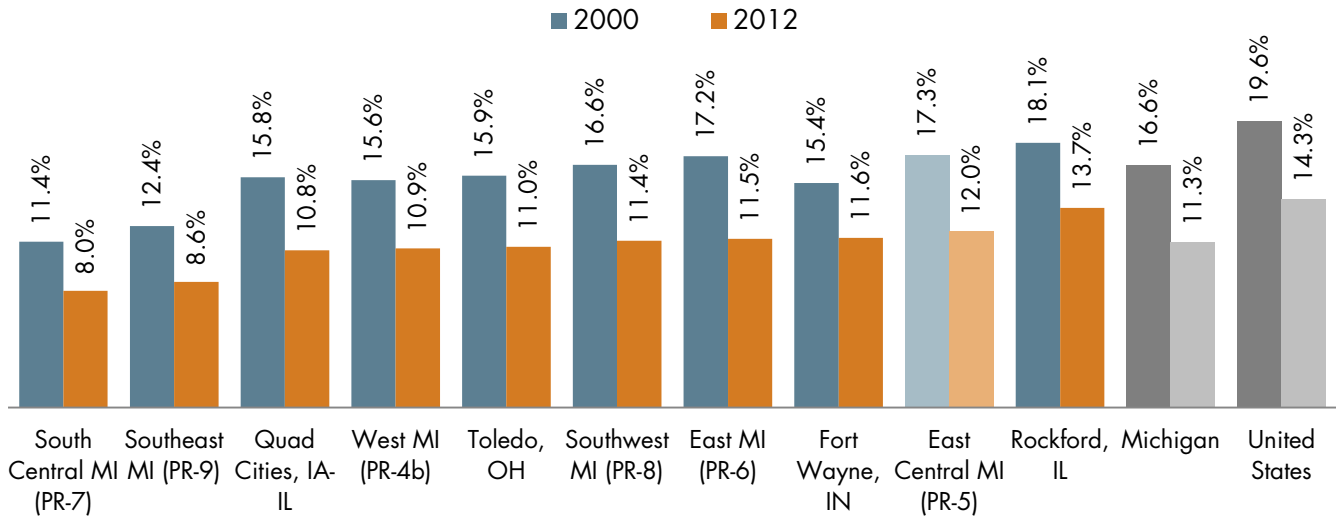
Source: US Census Bureau

\*Data are 5-year averages for 2008-2012 from the American Community Survey

## POPULATION WITH NO HIGH SCHOOL EDUCATION

PERCENTAGE OF POPULATION WITHOUT A HIGH SCHOOL DIPLOMA (OR EQUIVALENT), 2000 & 2012\*

The percentage of residents in East Central Michigan without a high school education declined from 17.3% of the adult population (age 25 and older) in 2000 to only 12% of the population in 2012.

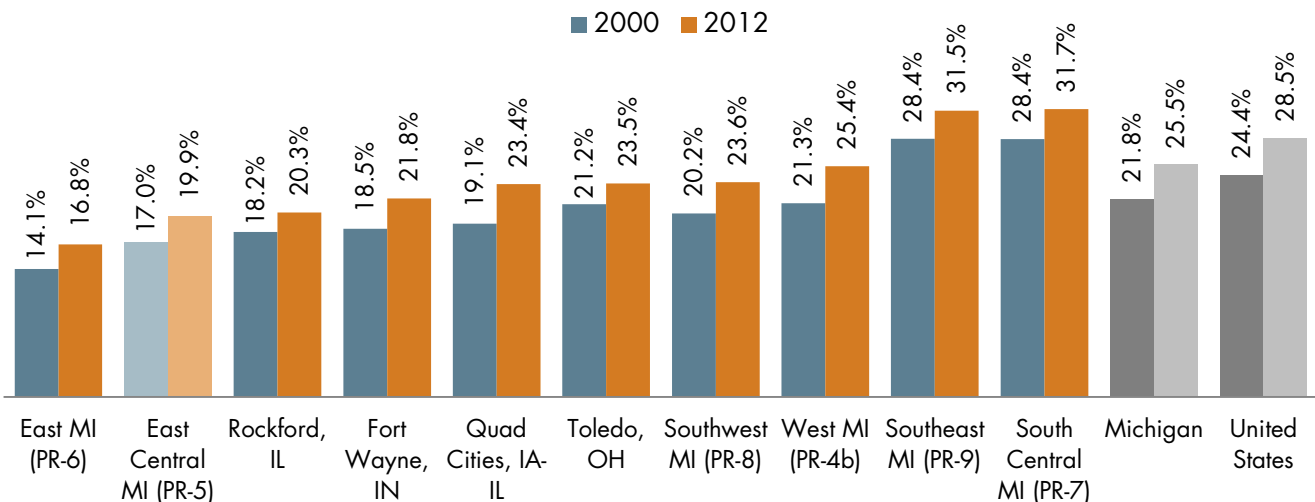


Source: US Census Bureau \*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## POPULATION WITH BACHELOR'S DEGREES OR HIGHER

PERCENTAGE OF POPULATION WITH A BACHELOR'S DEGREE OR HIGHER, 2000 & 2012\*

The percentage of adult residents in East Central Michigan with a bachelor's degree or higher grew from 17% of the population in 2000 to 19.9% of the population in 2012.

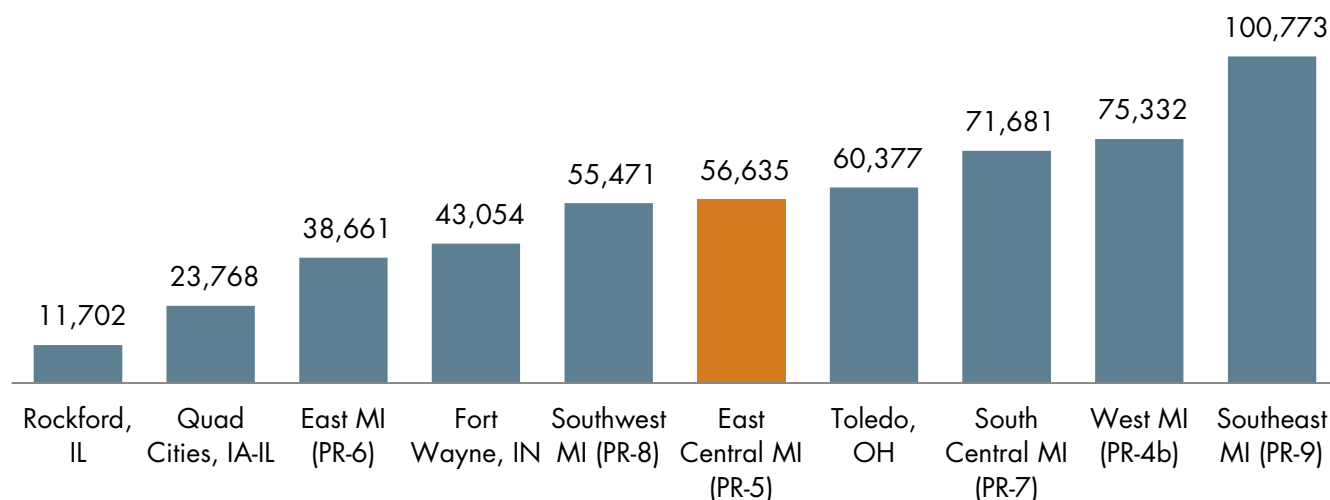


Source: US Census Bureau \*2012 data are 5-year averages for 2008-2012 from the American Community Survey

## HIGHER EDUCATION ENROLLMENT

TOTAL ENROLLED COLLEGE & UNIVERSITY STUDENTS, 2013

In fall 2013, East Central Michigan had nearly 57,000 students enrolled in the region's colleges and universities. This is one of the region's strongest assets for economic development.

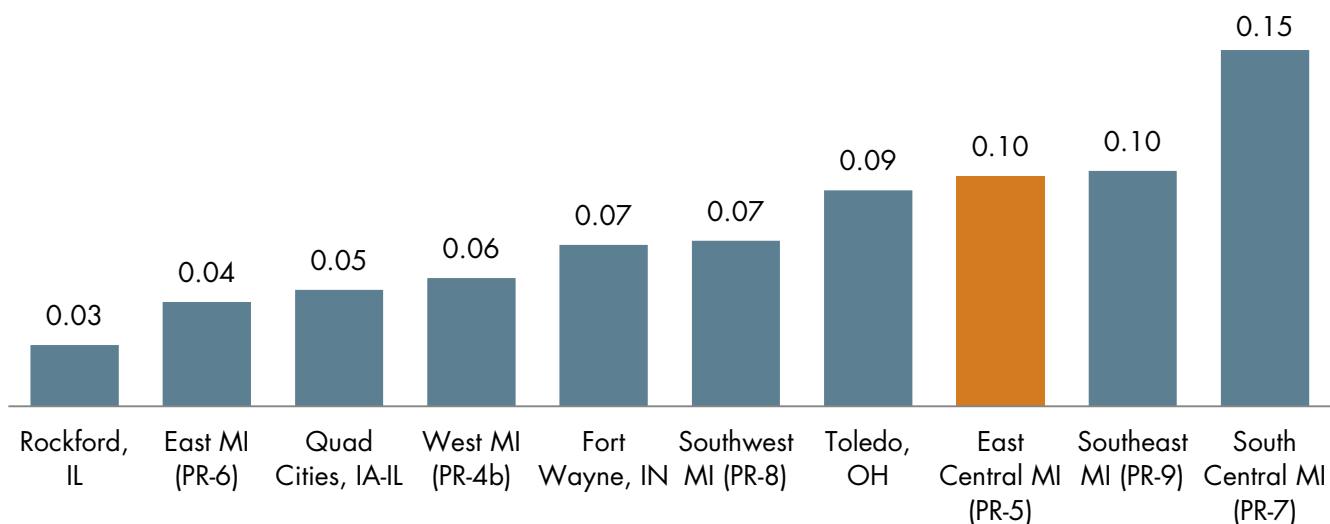


Source: National Center for Education Statistics

## HIGHER EDUCATION ENROLLMENT PER CAPITA

TOTAL ENROLLED COLLEGE & UNIVERSITY STUDENTS PER CAPITA, 2013

On a per capita basis, East Central Michigan has more college and university students than all of the benchmark regions except for Southeast Michigan (home of the University of Michigan) and South Central Michigan (home of Michigan State University).

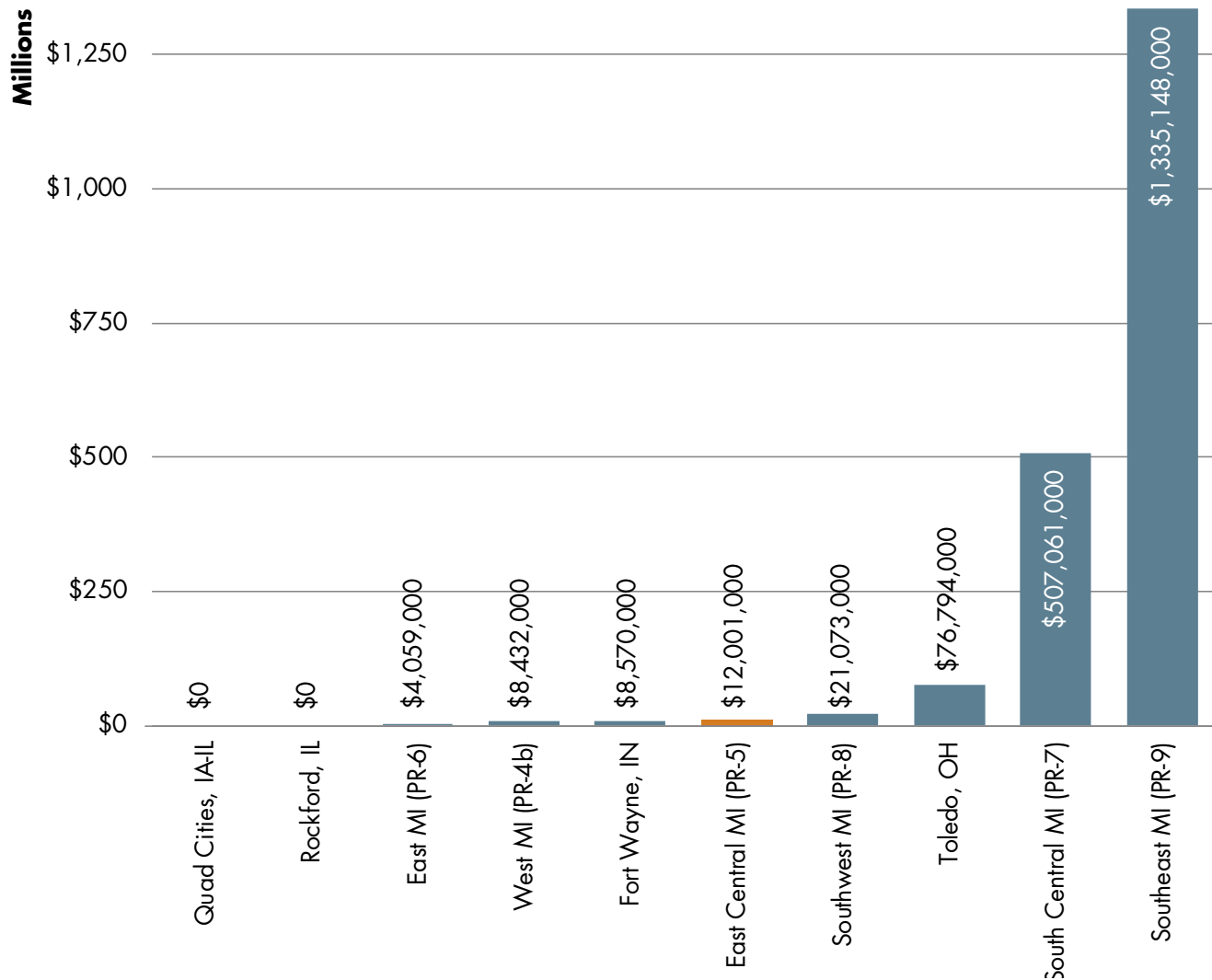


Source: National Center for Education Statistics

## HIGHER EDUCATION R&D INVESTMENTS

TOTAL R&D EXPENDITURES AT UNIVERSITIES, 2012

East Central Michigan universities invested just \$12 million in academic R&D in 2012. The majority of the region's R&D expenditures, \$10.9 million, took place at Central Michigan University. The region's R&D spending is roughly comparable to most of the benchmark regions, with the notable exceptions of South Central Michigan (\$507 million) and Southeast Michigan (more than \$1.3 billion).

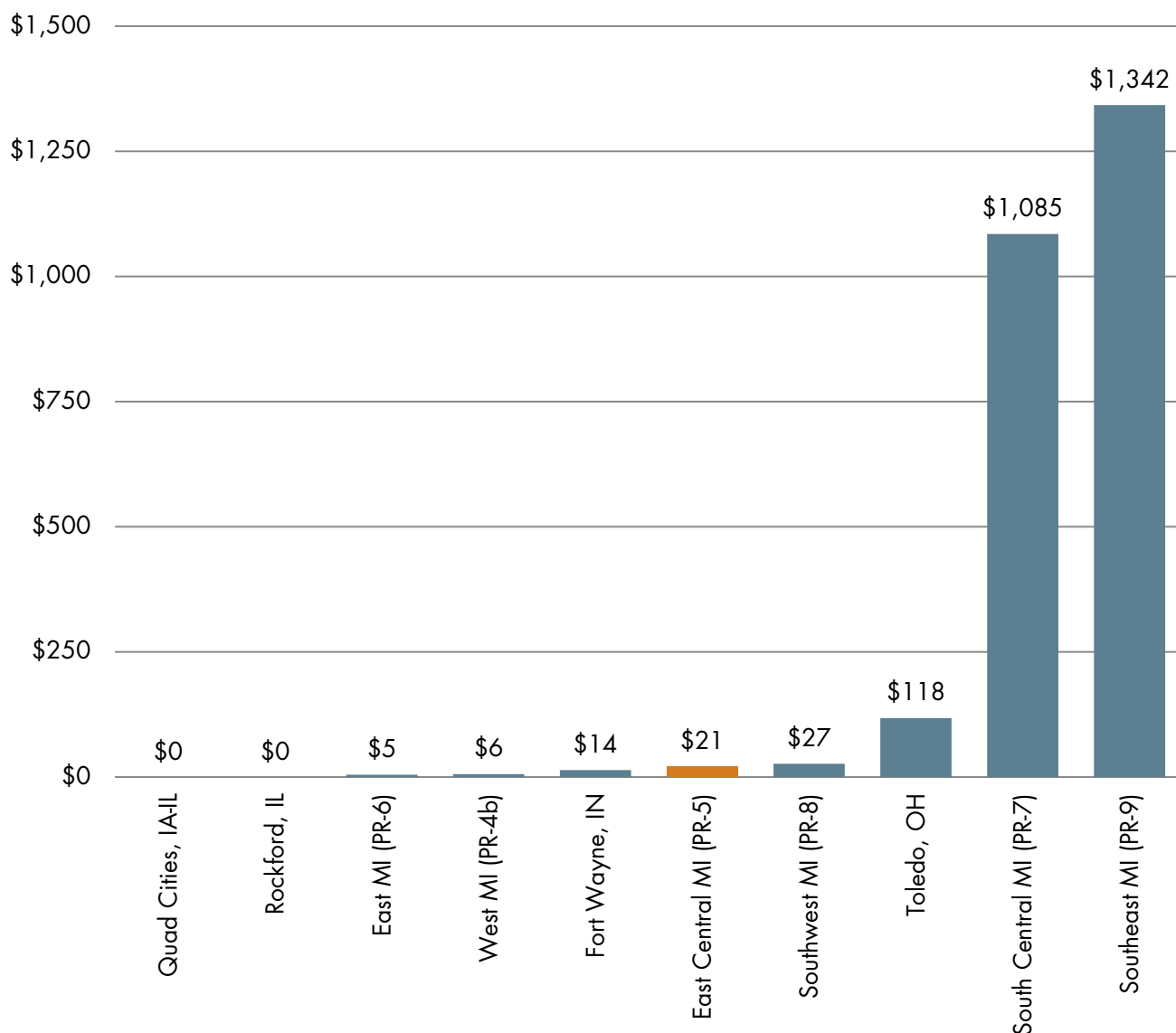


Source: National Science Foundation

## HIGHER EDUCATION R&D INVESTMENTS PER CAPITA

TOTAL R&D EXPENDITURES AT UNIVERSITIES PER CAPITA, 2012

On a per capita basis, East Central Michigan's R&D investments at higher education institutions are comparable to most of the benchmark regions, again with the notable exceptions of South Central Michigan and Southeast Michigan. In 2012, these two regions received more than 50 times the amount of R&D investments than those in East Central Michigan.

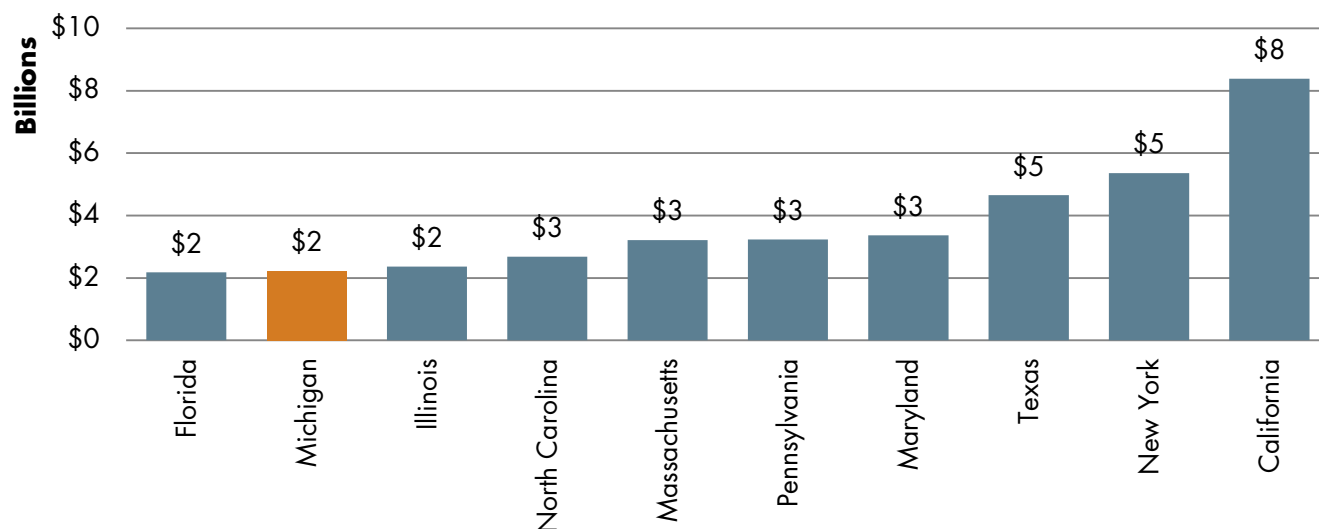


Source: National Science Foundation

## TOP 10 STATES: HIGHER EDUCATION R&D INVESTMENTS

TOTAL UNIVERSITY R&D EXPENDITURES IN TOP 10 STATES, 2012

Michigan received more than \$2.2 billion in academic R&D investments in 2012, making it the 9th ranked state in the US for R&D spending. Michigan is the 9th most populated state, so these figures are in line with expectations.

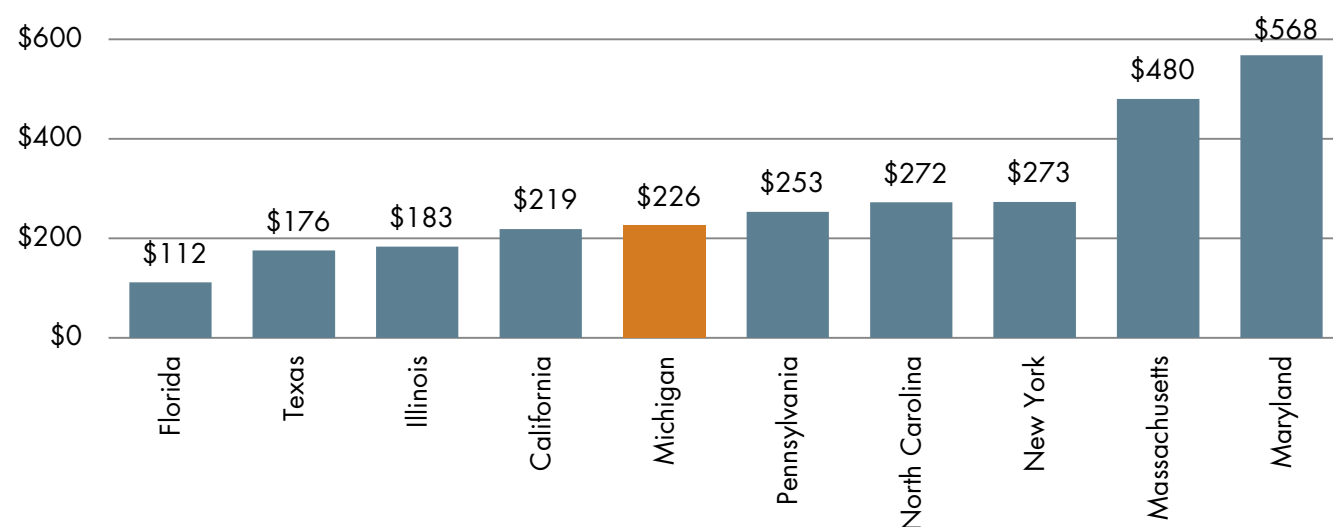


Source: National Science Foundation

## TOP 10 STATES: HIGHER EDUCATION R&D PER CAPITA

TOTAL UNIVERSITY R&D EXPENDITURES PER CAPITA IN TOP 10 STATES, 2012

On a per capita basis, Michigan universities received more R&D investments in 2012 than California, Illinois, Texas, and Florida.



Source: National Science Foundation

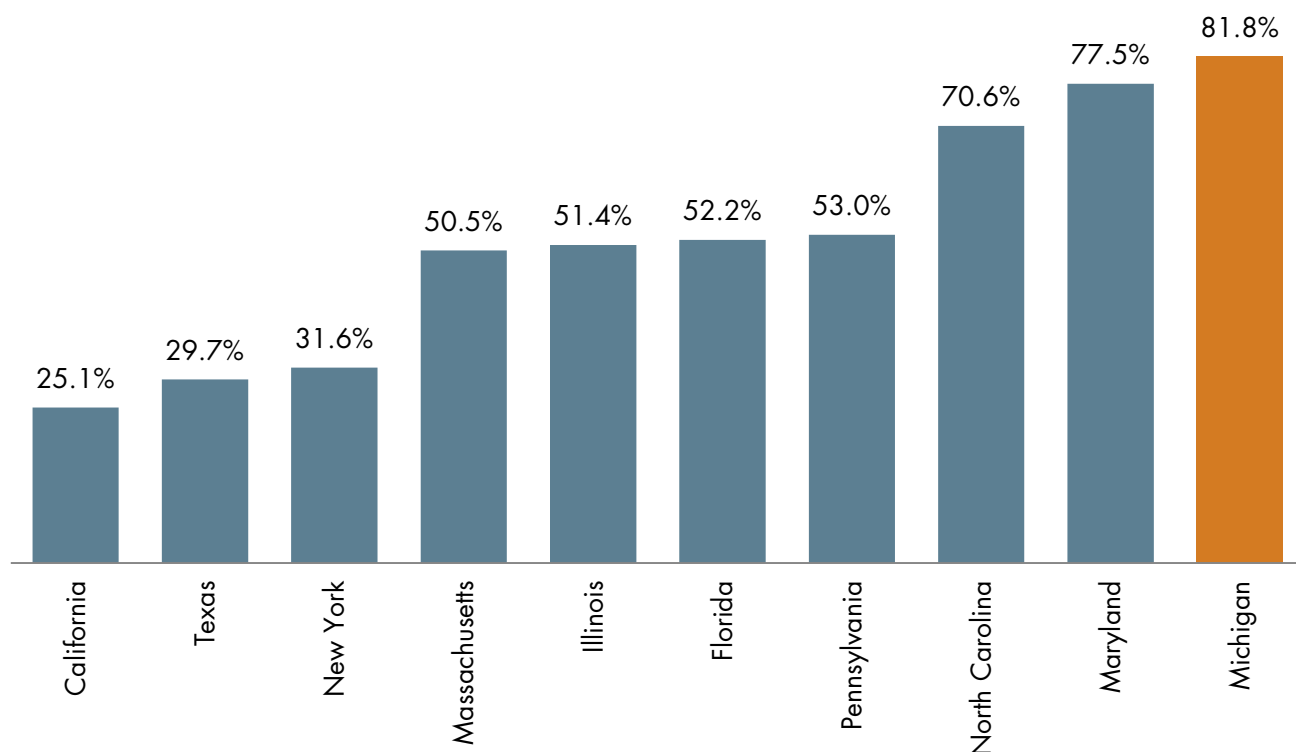


## CONCENTRATION OF HIGHER EDUCATION R&D IN EACH STATE'S TWO LARGEST RESEARCH UNIVERSITIES

SHARE OF STATE'S TOTAL UNIVERSITY R&D INVESTMENTS IN TWO LARGEST RESEARCH UNIVERSITIES, 2012

81.8% of Michigan's R&D investments are concentrated in the state's top two universities, the University of Michigan and Michigan State University. This makes the state of Michigan unique among the 10 states with the highest amount of R&D investments. No other state has a similar concentration of R&D spending. Every other state in the top 10 does a better job of "spreading the wealth" of R&D investments to a larger number of higher education institutions. This information speaks highly of the University of Michigan and Michigan State University. Both of these schools are world-class research universities. In fact, the University of Michigan ranks #2 among all US universities, public and private, in total R&D spending. Michigan State University ranks #36 nationally.

But more importantly, this represents a huge untapped opportunity for the many other universities in Michigan, including those in East Central Michigan (especially Central Michigan University). Another big opportunity for East Central Michigan is the attraction of R&D investments from the University of Michigan and Michigan State University into the region, tied perhaps to some of the region's major employers (Dow Chemical, Dow Corning, and Nexteer).



Source: National Science Foundation

## APPENDIX C: ECONOMIC DASHBOARD

## Economic Performance Dashboard

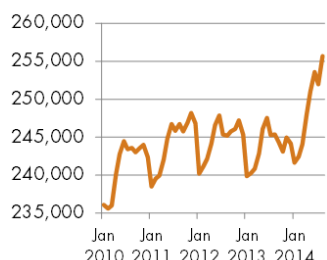
East Central Michigan Prosperity Region (PR-5): OCT. 2014

## Employment



Job growth has accelerated since Jan. 2014.

## Total Employment

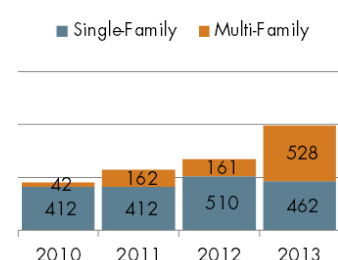


## Housing Construction



Building permits increased by 48% from 2012 to 2013.

## Building Permits

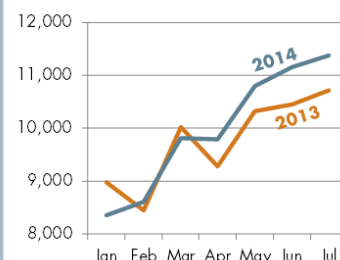


## Air Travel



Air travel at MBS has been higher in April-July 2014 than in 2013.

## Passengers at MBS

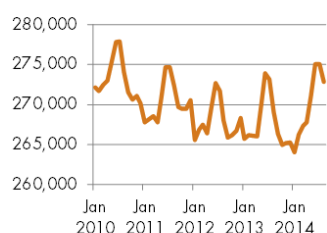


## Labor Force



The labor force is slightly larger than it was in Aug. 2013.

## Labor Force



## Mortgage Equity



The region generally has better mortgage equity than Michigan.

## Negative Equity Rate: Q1 2014

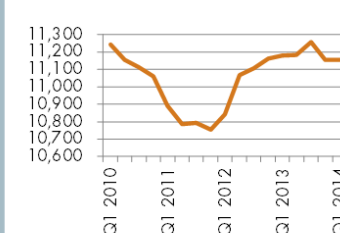
Arenac County:	15%
Bay County:	22%
Clare County:	17%
Gladwin County:	14%
Gratiot County:	19%
Isabella County:	13%
Midland County:	16%
Saginaw County:	25%
PR-5	N/A
Michigan	24%
U.S.	18%

## Private Businesses



The number of businesses is slightly lower in Q1 2014 than Q1 2013.

## Business Establishments



## Unemployment Rate



The region's unemployment rate is better than the Michigan's rate.

## Unemployment Rate: Aug 2014

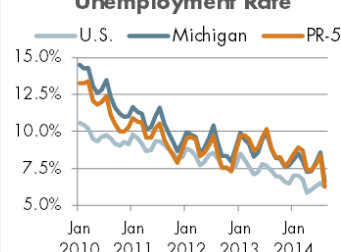
Arenac County:	7.7%
Bay County:	6.3%
Clare County:	8.3%
Gladwin County:	8.0%
Gratiot County:	6.9%
Isabella County:	5.1%
Midland County:	5.3%
Saginaw County:	6.5%
PR-5	6.3%
Michigan	6.7%
U.S.	6.3%

## Unemployment Rate



The region's unemployment rate is much lower than in 2010.

## Unemployment Rate

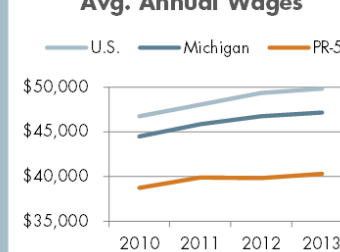


## Wages



The region's wages are much lower than Michigan and the U.S.

## Avg. Annual Wages



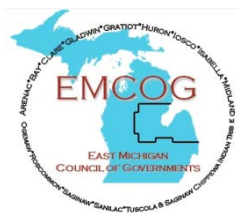
Sources: U.S. Dept. of Housing & Urban Development, Building Permits Database; U.S. Bureau of Labor Statistics, LAUS (Local Area Unemployment Statistics) & QCEW (Quarterly Census of Employment and Wages); U.S. Dept. of Transportation, Bureau of Transportation Statistics; Zillow Negative Equity Infographic

## APPENDIX D: BEST PRACTICE EXAMPLES

## ECONOMIC DEVELOPMENT & MARKETING

## REGIONAL COLLABORATION:

## EAST MICHIGAN COUNCIL OF GOVERNMENTS (EMCOG)




The East Central Michigan Planning & Development Regional Commission (ECMPDRC) was originally created in 1968 by the U. S. Department of Commerce, Economic Development Administration as a federal Economic Development District (EDD). In 2009, the ECMPDRC reorganized and became the East Michigan Council of Governments (EMCOG). EMCOG covers over 337 member governments including 14 counties, numerous cities, school districts, and special districts. The 8-county Prosperity Region 5 is also within EMCOG's region.

EMCOG serves as the principal organization responsible for managing and implementing the Regional Prosperity Strategy for East Central Michigan, in partnership with stakeholders from the 8-county region representing economic development, workforce development, transportation, higher education, and adult education.

**For more information, visit:** <http://emcog.org/Welcome.asp>

**CENTER FOR BUSINESS AND ECONOMIC DEVELOPMENT: SAGINAW VALLEY  
STATE UNIVERSITY**

The logo of Saginaw Valley State University (SVSU) is a red square with the letters "SV" stacked above "SU" in white, serif font.

The Center for Business and Economic Development (CBED), housed within Saginaw Valley State University (SVSU), plays an important role in supporting the economic growth of East Central Michigan. The CBED's mission is to enhance the economic vitality of the region by providing technical support for existing businesses; personal and professional development opportunities; programs and services for the manufacturing sector; and commercialization of ideas and inventions whether from within SVSU or from business start-ups across the region. The CBED supports the region's businesses through five entities: 1) Michigan Manufacturing Technology Center, Northeast; 2) Office of Continuing Education and Professional Development; 3) Osher Lifelong Learning Institute; 4) Independent Testing Laboratory; 5) Saginaw Valley Research and Development Corporation. The Independent Testing Lab (established in 1982), in particular, plays a key role in supporting the region's manufacturing industry by providing analytical services and technical support with the latest laboratory equipment needed to improve existing products and bring new products to market.

**For more information, visit:** [www.svsu.edu/cbed](http://www.svsu.edu/cbed)

## LOCAL ECONOMIC DEVELOPMENT: MIDLAND TOMORROW



Established in 1963, Midland Tomorrow is a private, non-profit economic development corporation serving Midland County and each municipality within the county. Its mission is to enhance the quality of life for Midland County residents through the retention and creation of quality jobs and diversification of the economic base. The organization has developed long-standing relationships in the local business community that have helped grow and strengthen Midland County's economy. In 2012, Midland Tomorrow received two Excellence in Economic Development Awards from the IEDC (International Economic Development Council) for their economic gardening program and for [www.TourMidland.com](http://www.TourMidland.com).

**For more information, visit:** [www.midlandtomorrow.org](http://www.midlandtomorrow.org)

## LOCAL ECONOMIC DEVELOPMENT: SAGINAW FUTURE INC.



Established in 1992, Saginaw Future Inc. is a public-private alliance of local businesses, the County of Saginaw, the City of Saginaw, 15 local municipalities and the Saginaw County Chamber of Commerce. Its mission is to foster quality job creation through expansion of local industry and attraction of new business projects to the community. The organization has a strong track record of influencing businesses to expand employment in Saginaw County. In 2009, Saginaw Future and its partners received the Excellence in Economic Development Award for Excellence in Environmental or Energy Economic Development from the US Department of Commerce for their commitment to research based, market driven economic development in the local economy. In 2012, Saginaw Future received a Gold Excellence in Economic Development Award from the IEDC (International Economic Development Council) for the partnerships and incentive package that led to the successful retention and expansion of Nexteer Automotive.

**For more information, visit:** [www.saginawfuture.com](http://www.saginawfuture.com)

## ENTREPRENEURSHIP & INNOVATION

### VENTURE INVESTMENT & PARTNERING FORUMS: WASHINGTON BIOTECHNOLOGY & BIOMEDICAL ASSOCIATION



The Washington Biotechnology & Biomedical Association (WBBA) works to support the growth of Washington State's life sciences ecosystem through advocacy, enterprise support, and the enhancement of research collaboration. The WBBA created the Venture Investment & Partnering (VIP) Forums to provide an opportunity for local life sciences entrepreneurs, companies, and researchers to meet with prospective investors and potential strategic partners. The VIP Forum brings to Seattle venture capital firms, corporate venture groups, and multinational life sciences companies (VIPs) that could serve as strategic partners for local life sciences firms. The VIP Forum includes two parts: 1) a plenary session during which the VIPs discuss their targets, interests, and investment/partnering strategies, and answer questions from the audience; and 2) a session in which pre-selected organizations present their investment and partnering opportunities to the VIPs in a one-on-one setting.

**For more information, visit:** [www.washbio.org/?page=VIP](http://www.washbio.org/?page=VIP)

### BUSINESS INCUBATION: MID MICHIGAN INNOVATION CENTER



The Mid Michigan Innovation Center (MMIC) is a private, non-profit business incubator located in Midland. The MMIC provides services, flexible facilities, and entrepreneurial training and education for entrepreneurs to develop business ventures. The organization receives funding and support from the Michigan Economic Development Corporation, Dow Chemical, Dow Corning, and Midland Cogeneration Venture. The MMIC currently serves 45 member companies in a broad range of industries, many of which are technology-intensive. Many MMIC member companies have achieved success in recent years. For example, CDI Engineering grew from 4 to 40 employees in one year (2008), and more recently (2013), Advanced Battery Concepts, LLC, reached a total of \$4 million in capital raised in 4 years.

**For more information, visit:** [www.mmic.us/web](http://www.mmic.us/web)

### ENTREPRENEURSHIP ECO-SYSTEM MAP: STARTUP SEATTLE



Startup Seattle is an initiative and website created by the city's Office of Economic Development designed to help entrepreneurs navigate the city's resources and connections. One of the most valuable components of the Startup Seattle website is the entrepreneurship eco-system map, which graphically displays the locations of nearly 2,000 organizations (startups, investors, incubators, and others) in 25 different categories. The Startup Seattle website provides other information for entrepreneurs including: events (free postings for tech startup events); resources (an ever-expanding list of organizations and services for tech-startups); jobs (a curated collection of tech startup career opportunities); blog articles (tips and trends, profiles of startups and community leaders); and a newsletter.

**For more information, visit:** [www.startupseattle.com/resources/map-seattle-startup-ecosystem](http://www.startupseattle.com/resources/map-seattle-startup-ecosystem)

## ANGEL INVESTMENT: BLUEWATER ANGELS



Founded in 2008, BlueWater Angels is the largest and fastest-growing group of angel investors in the state of Michigan, representing about one-third of the state's total angel investments on an annual basis. BlueWater Angels is a network of more than 50 high-net-worth CEOs, entrepreneurs, and professionals focused on investing capital in companies with high growth potential. In addition to providing access to capital, investors share their experience and expertise, collaborate on the due diligence process and provide mentoring guidance to the companies receiving investment capital. The organization's primary goal is to achieve a positive return on investment (ROI) while supporting the entrepreneurial community for the economic benefit of the entire mid-Michigan region and the state. As of 2014, BlueWater Angels is responsible for over \$8 million in syndicated investments.

**For more information, visit:** [www.bluewaterangels.com](http://www.bluewaterangels.com)

## NEW VENTURE COMPETITION: CENTRAL MICHIGAN UNIVERSITY



Launched in 2001, Central Michigan University's (CMU) New Venture Competition is a successful entrepreneurship development program. The New Venture Competition offers CMU students a supportive environment for creating a new business or accelerating an existing early stage venture. This includes ventures based on technology developed by CMU students, faculty, and researchers. The program provides students with opportunities to earn start-up capital and to connect with experienced entrepreneurs, alumni, business professionals, venture capital experts, angel investors, and community leaders. The competition awards more than \$75,000 in start-up capital and in-kind services to student business ventures. Since its inception, over 100 businesses have been launched through the program, 30 of which are currently still operating. In 2013, the competition was named the Educational Program of the Year by Automation Alley, Michigan's largest technology business association.

**For more information, visit:**

[www.cmich.edu/colleges/cba/academic\\_programs/departments/ent/new\\_venture/Pages/default.aspx](http://www.cmich.edu/colleges/cba/academic_programs/departments/ent/new_venture/Pages/default.aspx)

## TALENT & WORKFORCE DEVELOPMENT

### K-12 STUDENT MOTIVATION: TEXAS SCHOLAR AWARD



Launched in 2007, the Texas Scholar Award program challenges and inspires K-12 students to be better prepared for future academic and professional success. The Texas Scholar Award rewards 50 high school seniors each year who exhibit leadership and good citizenship through excellence in their academics and extracurricular activities. The 2013 Class of Texas Scholars was the most competitive to date, with 1,528 nominations accepted. Among the 50 students selected in 2013, 96% were in the top 5% of their class and 76% held part-time jobs or completed significant part-time volunteer work during the school year.

**For more information, visit:** [www.texasscholaraward.com/About/WhoAreTexasScholars](http://www.texasscholaraward.com/About/WhoAreTexasScholars)

### WORKFORCE DEVELOPMENT COLLABORATION: GREAT LAKES BAY MICHIGAN WORKS!



East Central Michigan's three workforce development groups, led by Great Lakes Bay Michigan Works!, are planning to consolidate into a single agency that serves the 8-county region. This unprecedented collaboration is a direct response to the opportunity and need for a more regional approach to workforce development. The new partnership will improve the efficiency and effectiveness of workforce development programs across the region, with the ultimate goal of better serving the needs of the region's employers and workforce.

**For more information, visit:** [www.michiganworks.com](http://www.michiganworks.com)

### CENTER FOR STUDENT OPPORTUNITY: ALMA COLLEGE



Alma College is committed to the success of its students and of its surrounding community. This commitment can be seen in the college's Center for Student Opportunity (CSO). The CSO provides support services and practical experiences that enhance educational opportunities for students. Based in the CSO, the Responsible Leadership Institute (RLI) provides innovative leadership and service opportunities for all students including leadership speakers, book discussions, seminars, and workshops. Also as part of the CSO, every student receives up to \$2,500 for an experiential learning opportunity that meets personal or professional goals. These consist of research fellowships and other approved learning experiences including many valuable internships with non-profit organizations and local government entities in East Central Michigan that could not otherwise afford to pay for interns or part-time staff. Alma College's commitment to its community has been demonstrated by the college's ongoing investments (campus bookstore and student housing) in downtown Alma.

**For more information, visit:** [www.alma.edu/academics/support/center-for-student-opportunity](http://www.alma.edu/academics/support/center-for-student-opportunity)



## FINANCIAL INCENTIVES FOR ON-TIME GRADUATION: GRAND VALLEY STATE UNIVERSITY



Many of Michigan's public universities struggle with low graduation rates. In fact, only 3 of the state's 15 public universities have graduation rates above the 31% US average. These three institutions include the state's two flagship schools (University of Michigan and Michigan State University) and Grand Valley State University (GVSU). Back in 1990, GVSU also struggled with low graduation rates of about 15%. To address this problem, university leaders implemented a unique program that cut tuition for students that stayed on track to graduate within four years, basically paying seniors to graduate on time. Since 1990, GVSU's graduation rate has more than doubled, thanks in large part to the financial incentives offered to students for on-time graduation. This program could serve as a model for other public universities in Michigan as a way to reduce costs associated with higher education for students, parents, and the economy as a whole.

**For more information, visit:** [www.bridgemi.com/2014/07/paying-students-to-graduate](http://www.bridgemi.com/2014/07/paying-students-to-graduate)

## FAST START PROGRAM: DELTA COLLEGE



In 2008, Delta College partnered with regional businesses and Great Lakes Bay Michigan Works! to create the Fast Start training program in response to demand from employers. The program is designed to provide an accelerated learning environment that leads to hireable employees for high-demand occupations. The program won an award from the National Association of Workforce Boards thanks to job placement rates as high as 89 percent. Delta College currently offers four Industrial Fast Start programs (advanced lithium ion battery manufacturing, advanced manufacturing, chemical process operator, and solar manufacturing) and two Non-Industrial Fast Start programs (business process services and customer service representative).

**For more information, visit:** [www.delta.edu/corporateservices/fast-start.aspx](http://www.delta.edu/corporateservices/fast-start.aspx)

## STEM IMPACT INITIATIVE: GREAT LAKES BAY REGIONAL ALLIANCE



In November 2014, the Great Lakes Bay Regional Alliance (GLBRA) launched a comprehensive strategy for STEM (Science, Technology, Engineering, and Math) excellence to build a workforce of tomorrow that is aligned with the needs of regional employers. This effort was developed in response to the growing needs of regional employers for STEM-educated workers, especially in the manufacturing and health care sectors. The study included several months of data analysis, stakeholder interviews, and focus groups with community leaders. Although the study focused on five counties (Bay, Gratiot, Isabella, Midland, and Saginaw), the findings and recommendations can be applied to the entire 8-county region. The STEM Impact Initiative identified four requirements for an effective STEM talent pipeline: 1) driven by employer demand; 2) powered by career-ready and college-ready students; 3) strengthening technical skills needed in the economy; 4) sustained by a culture of STEM.

**For more information, visit:** [www.greatlakesbay.com](http://www.greatlakesbay.com)



## PROGRAMMING AND EDUCATION COMMITTEE: TOLEDO METROPOLITAN AREA COUNCIL OF GOVERNMENTS



The Toledo Metropolitan Area Council of Governments (TMACOG) is a voluntary association of local governments and non-governmental partners in Northwest Ohio and Southeast Michigan. The TMACOG created a Programming and Education Committee to plan, develop, and evaluate the organization's events and programs. The committee plays a lead role in planning and coordinating events such as forums with legislative officials, educational programs, and other events that allow TMACOG members to discuss issues of regional significance. As part of this effort, the committee identifies expert speakers knowledgeable on topics that are of importance to the organization's members.

**For more information, visit:**

[www.tmacog.org/programming\\_comm/Programming\\_Ed\\_Cmte\\_Operating\\_Procedures.pdf](http://www.tmacog.org/programming_comm/Programming_Ed_Cmte_Operating_Procedures.pdf)

## PLASTICS TECHNOLOGY PROGRAM: MID MICHIGAN COMMUNITY COLLEGE



Mid Michigan Community College (MMCC) has a specialized program that prepares students for careers in the region's cluster of plastics (forming, fabrication, design) businesses. MMCC offers an associate degree in Plastics Engineering Technology which also transfers to Ferris State University's bachelor's in Plastics Engineering Technology program. In 2012, MMCC received a grant from the National Science Foundation to: 1) formalize an industrial alliance to provide curriculum assistance, career awareness, and workforce experience; 2) develop a non-credit training credential, an academic certificate, and an associate degree with transferability into a bachelor's degree in plastics engineering technology, and 3) recruit students into a ladder program that provides work experience and integrates entrepreneurial instruction into the curriculum.

**For more information, visit:** [www.midmich.edu/plastics](http://www.midmich.edu/plastics)

## GRACE PROJECT: EASTERN MICHIGAN UNIVERSITY



The GRACE (GIS Resources and Applications for Career Education) Project, is a four-year project sponsored by the National Science Foundation, and developed by Eastern Michigan University to expand technology-based education for STEM careers in K-12, with a focus on GIS/T (Geographic Information Systems and Technology). The ultimate goal of the GRACE Project is to recruit a minimum of 120 teachers and 5,000 students in grades 8-12 to start a three-tiered GIS/T learning process. Tier 1 (the Explorer level) introduces 5,000 students to GIS/T through the ArcGIS Online Portal and through demonstrations designed to build the students' basic understanding of GIS/T and to spark student curiosity. Tier 2 (the Investigator level) will prepare 2,500 students to work with GIS/T through a series of lessons focused on science and engineering. Tier 3 (the Intern level) provides 300-500 of these students with professional GIS/T training and with opportunities to gain work experiences in local organizations as interns.

**For more information, visit:** [www.igre.emich.edu/igre/gisresearch/natinal/GRACE](http://www.igre.emich.edu/igre/gisresearch/natinal/GRACE)

## PLACE-MAKING & TALENT ATTRACTION

### INVESTMENTS IN REGIONAL AMENITIES: ALLEGHENY REGIONAL ASSET DISTRICT



The Allegheny Regional Asset District was authorized in the Pennsylvania Legislature (Act 77 of 1993) to administer grants from 50% of the proceeds of a 1% Allegheny County Sales and Use Tax, which is paid by residents and visitors to Allegheny County (the central county of the Pittsburgh metro area). Allegheny County receives an additional 25% of the funds, while the remaining 25% goes to other municipal governments. The grants support regional assets throughout the county such as civic, cultural, and recreational entities, libraries, parks and sports facilities. Since 1995, the local 1% sales tax has resulted in a nearly \$3 billion investment in the region's public libraries, parks, museums, cultural organizations, major regional facilities, and local municipal services such as the police force and roads.

**For more information, visit:** [www.radworkshere.org](http://www.radworkshere.org)

### DOWNTOWN REVITALIZATION: BAY CITY, MI



Bay City is the best example of a downtown turnaround in the 8-county region and perhaps the entire State of Michigan. As recently as the 1980s, most of the storefronts in downtown Bay City were vacant and boarded up. Since then, community leaders from the public and private sector worked to attract investments, businesses, and new facilities to re-invigorate the downtown. Today, downtown Bay City is a vibrant, walkable district with an increasing number of residents, businesses, and amenities. Some of the most transformative investments in recent years include the DoubleTree Hotel and events center, the renovated City Hall building, and the Uptown Bay City mixed-use development. Uptown Bay City (which includes new rental and condo housing, new office and medical space, a hotel, restaurants, and shops) is a great example of the type of public-private collaboration needed to achieve success in downtown revitalization.

**For more information, visit:** [www.downtownbaycity.com](http://www.downtownbaycity.com)

### LOCAL ENTREPRENEURSHIP: COPS & DOUGHNUTS



Located in downtown Clare, Cops & Doughnuts is an inspiring example of local entrepreneurship and creativity. The bakery was re-named Cops & Doughnuts in 2009 after the original doughnut shop and bakery (established in 1896) was within weeks of closing and the nine-member Clare Police Department put in \$1,500 each to revive the bakery. Since re-opening, the bakery and the Cops & Doughnuts brand have gained national media attention thanks to a string of clever marketing moves and product created with self-deprecating humor. Cops & Doughnuts sells merchandise (beyond pastries and food products) in an adjacent store, online, and in "substations" located in stores across Michigan.

**For more information, visit:** [www.copsdoughnuts.com](http://www.copsdoughnuts.com)

**EMPLOYEE HOME PURCHASE PROGRAM: HAUSBECK PICKLE COMPANY**

Saginaw-based Hausbeck Pickle Company recently launched an innovative pilot program (in partnership with Saginaw Future and the Saginaw County Land Bank) to assist employees with becoming homeowners by matching employees with single-family home properties in Saginaw. The company will make investments to bring the property up to code and will then finance the employee's purchase with a five-to-ten year land contract. The ultimate goal of this initiative is to improve the economic success of employees and enhance the prosperity of Saginaw's neighborhoods.

**For more information, visit:** [www.wsgw.com/common/more.php?m=15&r=1&item\\_id=23921](http://www.wsgw.com/common/more.php?m=15&r=1&item_id=23921)

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